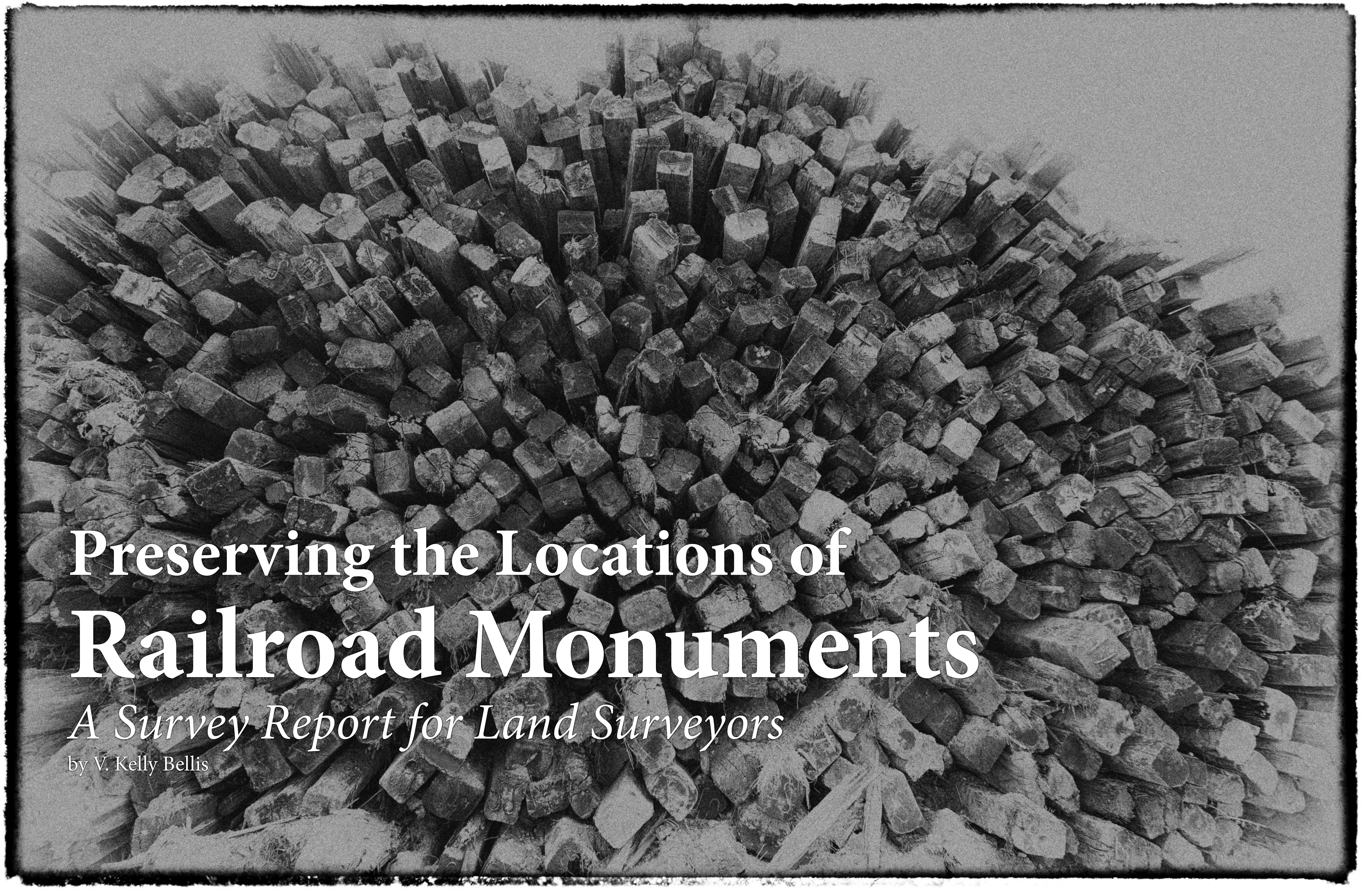

Preserving the Locations of Railroad Monuments

A Survey Report for Land Surveyors

by V. Kelly Bellis

Ashtech
ProMark2

Recon: V4-37, Monument ID: 1976
Photo date: 20080817 154615.jpg

For the puzzled & curious *- Note that in all photos throughout this book showing the use of the ProMark2 in recon mode, shown on the ground beside the monument / survey mark, and specifically where the NAD83 User Grid coordinates (in U.S. Survey Feet) can be discerned, I had incorrectly setup the NAD83 User Grid for Maine East (FIPS 1801) in the PM2 with the wrong parameter for the false easting, i.e., 300000 US. Survey Feet (91440 meters) instead of 300000 meters. The displayed easting can be corrected by adding 684252 feet.*

Preserving the Locations of Railroad Monuments

A Survey Report for Land Surveyors

by V. Kelly Bellis

Introduction

In the summer of 2008, work on the Down East Sunrise Trail (DEST) had begun (here) by the Maine Department of Conservation (MDOC) through its contractor, Vaughn Thibodeau and Sons, of Bangor. In mid-August I discovered that between Whitneyville and Marion Township 20 miles of the former railbed had been demolished and to my horror, that none of the concrete monuments marking the centerline of the right of way had been surveyed. Immediately I informed local surveyors[1] and the Maine Department of Transportation (MDOT). By the end of that month I had surveyed the monuments between Marion Township and Ayers Junction - see survey results in Appendix D - Ashtech Solutions Report, M2A.

Then at the end of September 2008, I began surveying the remaining monuments between Whitneyville and Ellsworth; and by mid-November, I had finished the field work - see survey results in Appendix D - Ashtech Solutions Report, W2W.

MDOT survey crews also had surveyed these monuments and the results of their work have been incorporated into this report with much appreciation in particular to Harold E. Nelson and Jason M. Everett. The vast majority of the monuments have been surveyed by both myself and MDOT, the *common set*. However, there were other monuments surveyed that are not in this common set. All monument locations are listed in *Appendix A - Val Sheets V4-26 through V4-117*, page 2. In Table 2, deltas between common set values are given. Deference should be given to the MDOT values. In all cases (by both VKB & MDOT), the values are provided for informational purposes - ***use at your own risk!***

Much credit and appreciation is given to the MDOT, and in particular to MDOT Deputy Director, Bruce Van Note, Peter A. Belanger, PLS, and the entire MDOT survey team for their retracement survey along the 20-mile stretch of demolished markers - see *Appendix B - Maine DOT Rail Line Retracement from Val Sheet V4-84 through V4-107, DOT File Number 15-312, Pages 1 through 179, Dated Sep 2011, Recorded 1 Mar 2012 at Washington County Registry of Deeds, Machias, ME.*

This survey report, intended to help land surveyors working along this corridor, is comprised of 3 distinct documents with this, the primary document, formatted as 12" x 18", *Appendix A* formatted as 26" x 57", and *Appendix B* formatted as 24" x 36" - all landscape orientation.

February 2026
V. Kelly Bellis, PLS #2099
Ellsworth, Maine

Primary document URL: https://archive.org/details/preserving-the-locations-of-railroad-monuments
Appendix A URL: https://archive.org/details/appendix-a-val-sheets-v-4-26-v-4-117
Appendix B URL: https://archive.org/details/appendix-b-maine-dot-rail-line-retracement-from-v-4-84-to-v-4-107

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[1] See VKB letter dated 16 Aug 2008 to Surveyors

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Appendix A - Val Sheets V4-26 through V4-117
Size: 342.6 MB (*external document*)

Appendix B - Maine DOT Rail Line Retracement From V4-84 to V4-107
Size: 1.1 GB (*external document*)

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INTERNET ARCHIVE
Preserving the Locations of Railroad Monuments
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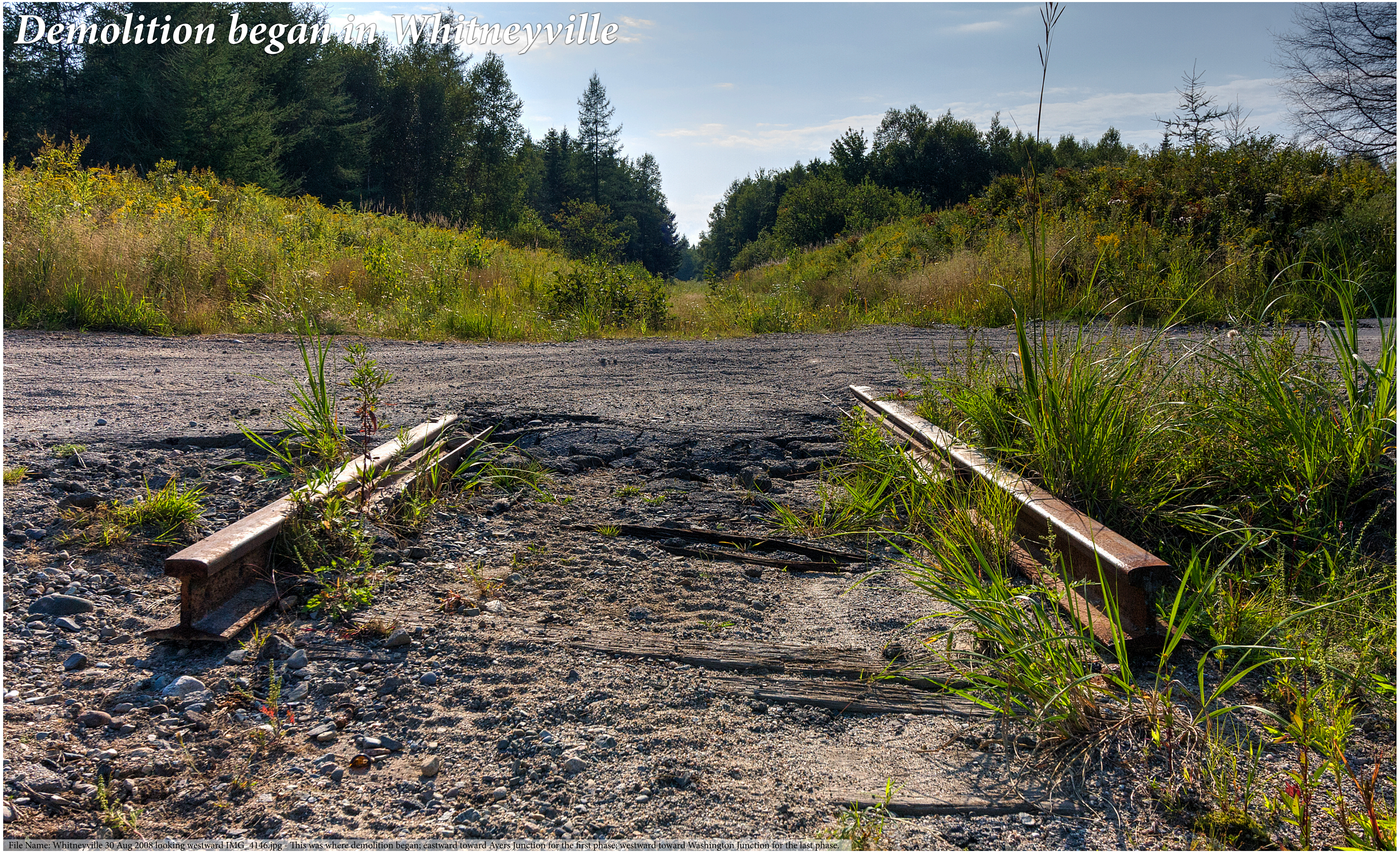
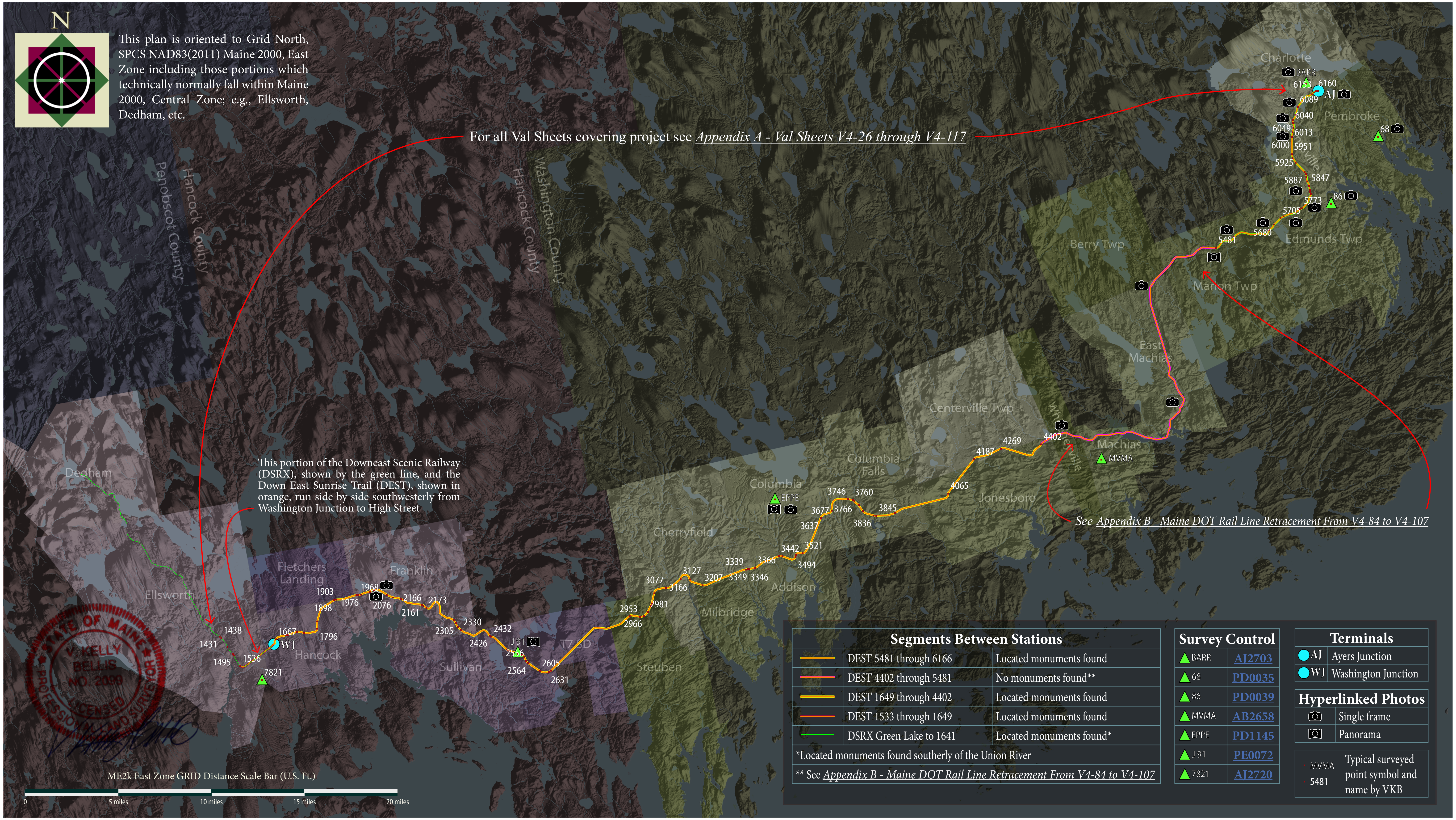
Demolition began in Whitneyville



File Name: Whitneyville 30 Aug 2008 looking westward IMG_4146.jpg - This was where demolition began; eastward toward Ayers Junction for the first phase; westward toward Washington Junction for the last phase.


N
Penobscot County
Hancock County
Hancock County
Washington County
Dedham
Ellsworth
Fletchers Landing
Franklin
Hancock
Sullivan
T7 SD
Steuben
Milbridge
Cherryfield
Addison
Columbia
Columbia Falls
Centerville Twp
Jonesboro
Whitneyville
Machias
East Machias
Marion Twp
Berry Twp
Edmunds Twp
Pembroke
Charlotte
WJ
AJ
BARR
68
86
MVMA
EPPE
J 91
7821
1431
1438
1495
1536
1667
1796
1898
1903
1968
1976
2076
2161
2166
2173
2305
2330
2426
2432
2556
2564
2605
2631
2953
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2981
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3760
3766
3836
3845
4065
4187
4269
4402
5481
5680
5705
5773
5847
5887
5925
5951
6000
6013
6040
6049
6089
6153
6160
V. KELLY BELLIS
NO. 2099
0
5 miles
10 miles
15 miles
20 miles

This plan is oriented to Grid North, SPCS NAD83(2011) Maine 2000, East Zone including those portions which technically normally fall within Maine 2000, Central Zone; e.g., Ellsworth, Dedham, etc.

For all Val Sheets covering project see *Appendix A - Val Sheets V4-26 through V4-117*

This portion of the Downeast Scenic Railway (DSRX), shown by the green line, and the Down East Sunrise Trail (DEST), shown in orange, run side by side southwesterly from Washington Junction to High Street

See *Appendix B - Maine DOT Rail Line Retracement From V4-84 to V4-107*

ME2k East Zone GRID Distance Scale Bar (U.S. Ft.)

Segments Between Stations

🟨	DEST 5481 through 6166	Located monuments found
🟪	DEST 4402 through 5481	No monuments found**
🟧	DEST 1649 through 4402	Located monuments found
🟧	DEST 1533 through 1649	Located monuments found
🟩	DSRX Green Lake to 1641	Located monuments found*

*Located monuments found southerly of the Union River

** See *Appendix B - Maine DOT Rail Line Retracement From V4-84 to V4-107*

Survey Control

▲ BARR	AJ2703
▲ 68	PD0035
▲ 86	PD0039
▲ MVMA	AB2658
▲ EPPE	PD1145
▲ J 91	PE0072
▲ 7821	AJ2720

Terminals

● AJ	Ayers Junction
● WJ	Washington Junction

Hyperlinked Photos

📷	Single frame
📷	Panorama

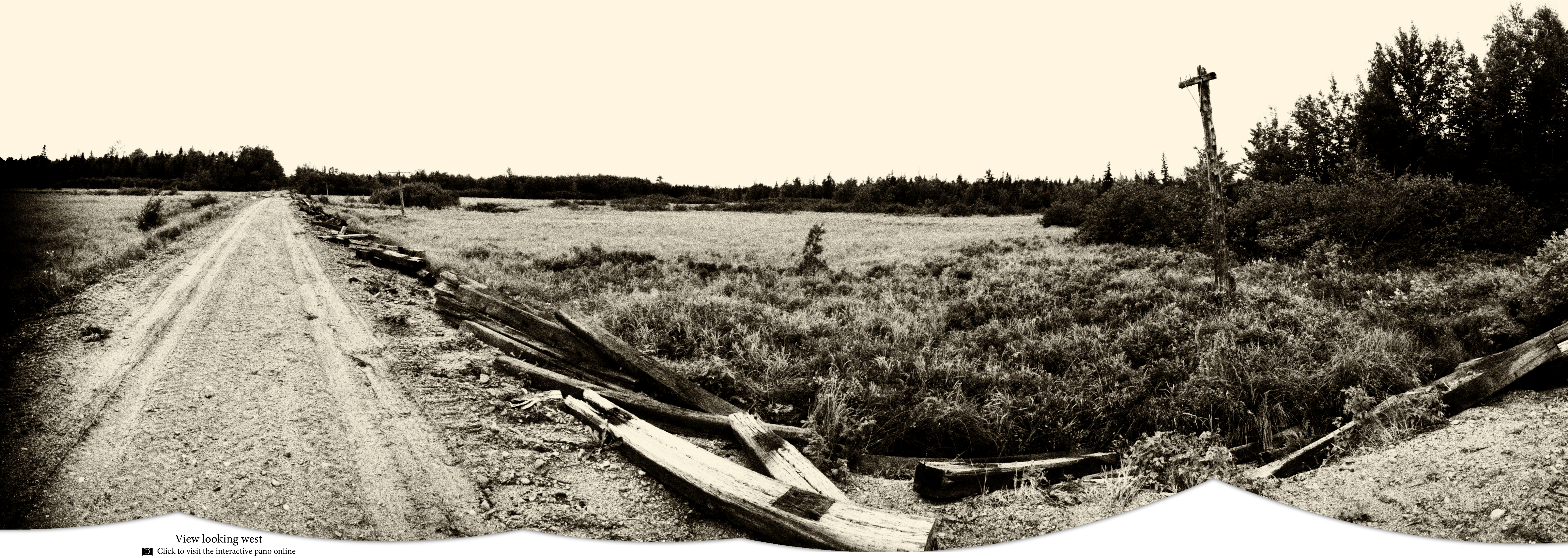
MVMA 5481	Typical surveyed point symbol and name by VKB

Survey Overview

This plan shows the GPS surveyed locations by V. Kelly Bellis, PLS #2099 in 2008 of the concrete monuments found marking the centerline of the former Maine Central Railroad running generally easterly of the Union River through Washington Junction to Ayers Junction.

Terrain data shown courtesy of USGS: https://www.usgs.gov/3d-elevation-program

Hydrography data shown courtesy of USGS: https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer



View looking west

Click to visit the interactive pano online

File Name: Pano Near Station 5481 - old timey.tif

Recognizing the Need For Preserving Monument Locations

Imagine that you own property, and at the end of every straight stretch and curve along your property line, each vertex has been painstakingly *reflected*[1] and marked with steel-reinforced concrete markers which have stood for the past 100 years. Now imagine your neighbor destroying all of those markers purposely and paying for their removal with your own tax dollars. Stop imagining. This really happened to those folks that owned land abutting the former Maine Central Railroad property in Downeast Maine in 2008 and 2009.

Ever since the conveyance from Maine Central RR Co. to the State of Maine[2] of the railroad right of way running from Brewer to Calais, we have periodically heard and read about one effort or another concerning the rehabilitation of the railroad or of its conversion to a recreational trail spearheaded by different groups individuals. After 20 years of such rumored reports, both things independently began to happen, seemingly about at the same time. The Downeast Scenic Railroad's (DSRX) efforts for the railroad's rehabilitation began at Washington Junction and continue to steadily run westerly-northwesterly toward Green Lake, whereas the Down East Sunrise Trail (DEST) runs east from Washington Junction terminating at Ayers Junction. Later in 2016, an extension of the DEST was added running alongside of the DSRX from Washington Junction to High Street in Ellsworth.

Though I had failed to see the article at the time, it was first reported on 26 June 2008 by the Ellsworth American that the demolition work, being overseen by the Maine Department of Conservation, had begun at Whitneyville. After my first learning from another article printed in the Ellsworth on 14 August 2008 mentioning that the tracks were being removed, I visited the area that same Thursday afternoon.

Aware that the demolition work had begun in Whitneyville and that the contractor, Vaughn Thibodeau & Sons, was working easterly, I kept driving on U.S. Route 1, through Machias and East Machias, and at every crossing observed that the demolition had already been completed. Chasing the railbed northward while driving on State Route 191 to within about a quarter-mile of the Berry Township-East Machias town line, I spotted the first activities related to the dismantling of the Washington County Railroad and what had taken so many years to build.

There, just west of the road, was a work yard where the heavy rails, stacked like cord wood, were being loaded onto flatbed trucks and hauled to market.

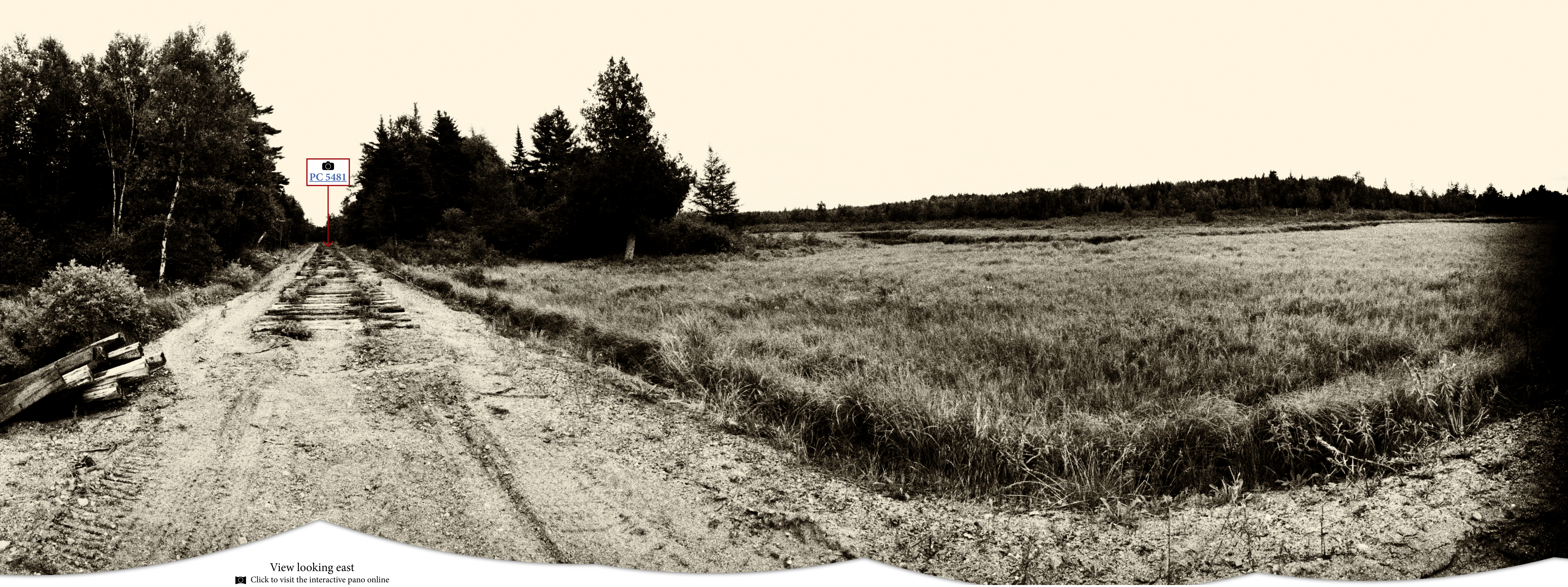
With the help of an excavator equipped with special pincers, the 40-foot long rails were being graded, based upon the condition of the steel for recycling, and then stacked. During the grading

File Name: Loaded rails going to market.jpg - Photo Date: 20080814

---

[1] Concrete monuments marking the centerline of the railroad right of way *reflect* the property boundaries on either side of the centerline, generally being 33 feet offset from the centerline.

[2] More fully described in the deed dated 12 Jun 1987 recorded in Book 1642, Page 389 at the Hancock County Registry of Deeds



View looking east

Click to visit the interactive pano online

File Name: Pano Near Station 5481 - old timey.tif

and stacking process, the clinging spring steel rail anchors were smacked free of the rail with a sledge hammer. All of the other iron bits; the rail anchors, fish plates, tie plates, and spikes, were also recycled. The recycling of the steel was no triviality as the global market in the first 2 quarters of 2008[3] played a significant part in the bidding for the project - see APPENDIX C, Bid Results.

Subsequent to my visit on Thursday afternoon 14 August 2008, I discovered that none of the concrete centerline markers had been surveyed before demolition had begun.

The Maine Department of Transportation (MaineDOT) and the Maine Department of Conservation (DOC) began demolition of the deteriorated rail and ties along the 85-mile ***Calais Branch Corridor Rehabilitation and Down East Sunrise Trail Project*** (MEDOT Project Number 014259.00) in June 2008, starting in the Washington County community of Whitneyville and working eastward, but unfortunately had been done without having first surveyed and documented any of the concrete centerline monuments which had survived for nearly a century.

Attempts made in mid-August to communicate with Maine DOT officials, the Maine DOC, the Hancock County Planning Commission, and other organizers of the Downeast Sunrise Trail Project in order to determine if the locations of railroad monuments had been surveyed ahead of the project's start yielded:

- ***About 40 monuments were located (at unknown times) by D.O.T. between Franklin and Ayers Junction using fast static techniques,***
- ***the results hadn't been processed at that time,***
- ***the locations of those 40 monuments wouldn't be released until some unknown time, and***
- ***there were no plans to replace the monuments.***

It was quite important in mid-August 2008, and perhaps even more so now, to understand where and when these 40 locations had been surveyed. Regardless of what was lost due to the demolition, and what may have been surveyed lying to the west, the remaining railroad monuments in front of the steadily moving eastward demolition needed to be surveyed without delay.

For example, during my initial visit on Thursday afternoon 14 August 2008 I hadn't walked an eighth of a mile along the remaining undisturbed ties (shown in the panorama above) where I found a concrete monument nearly flush with grade at Station 5481+97.26. This deteriorated concrete monument was one week later located by me using static GPS, and only one week later, found unearthed lying to the side of the demolished tracks. (see photos at Station 5481).

On one hand, the need to document and preserve the locations of those remaining monuments was recognized in time before they had been destroyed and lost forever. But unfortunately it wasn't until after many of those monuments along about 20 miles of railroad between Whitneyville and Marion Township had been destroyed. The easternmost leg of the track removal portion of the project ended at Ayers Junction near the Charlotte-Pembroke town line and State Route 214 in September 2008. By October 2009, the eastern end of the railbed rehabilitation and construction of the recreational trial between Whitneyville and Ayers Junction had been completed and opened to the public.

Shortly after I began hunting for, and surveying the remaining centerline monuments, the MeDOT did likewise and as a result, we have (2) independent disparate sets of data - see *Appendix A - Val Sheets V4-26 through V4-117*.

This report focuses primarily on my survey work, but it should also be mentioned here, and with many thanks, and much to the credit MeDOT, that they later surveyed the remaining physical evidence along the corridor for the section between Whitneyville and Marion Township. On March 1, 2012 (179) drawings prepared by the MeDOT were recorded at the Washington County Registry of Deeds - see *Appendix B - Maine DOT Rail Line Retracement From V4-84 to V4-107*.

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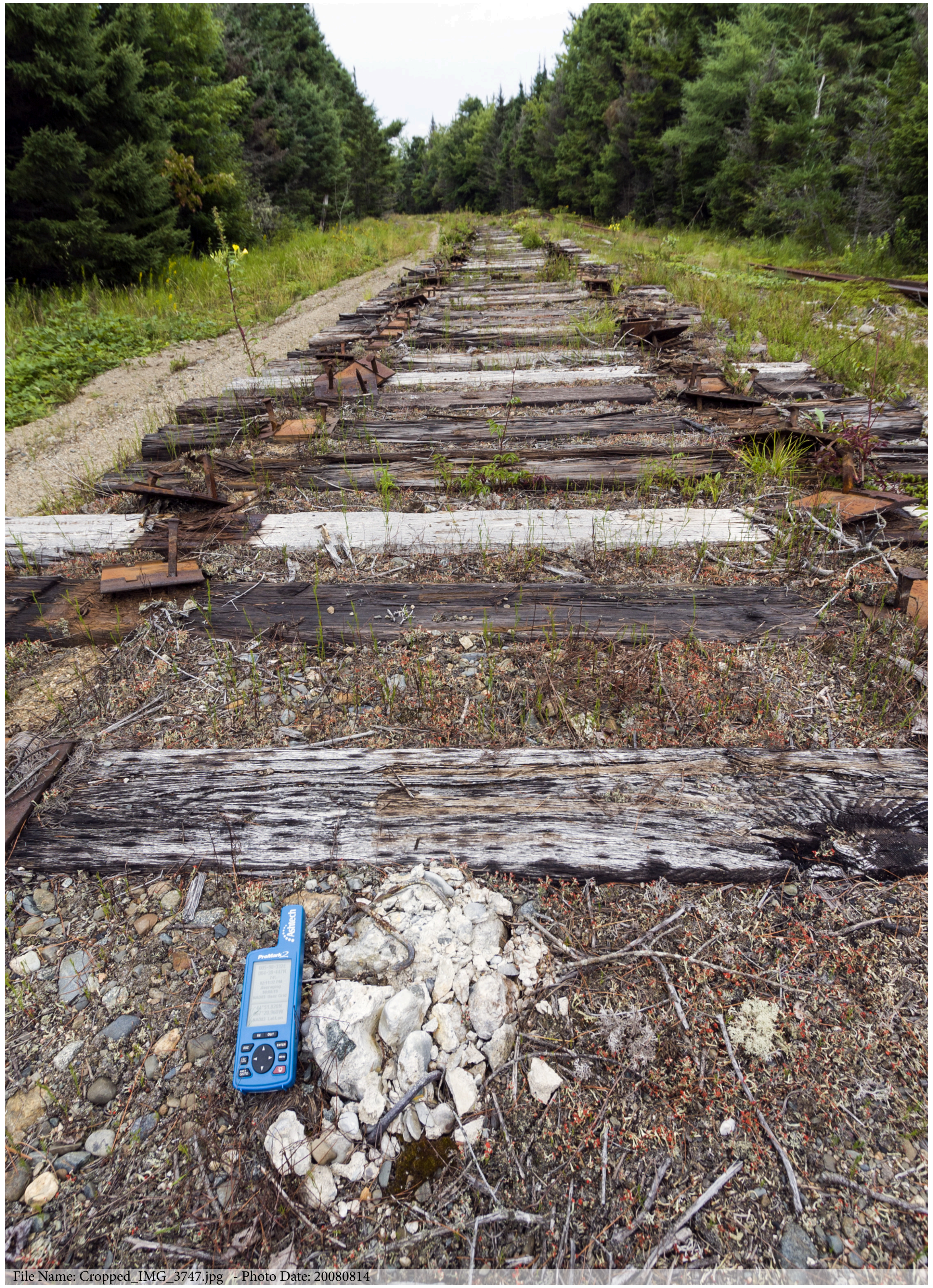
[3] Lauren Duensing, *Metals industry 2008 in review* - https://www.modernmetals.com/item/7796-metals-industry-2008-in-review.html



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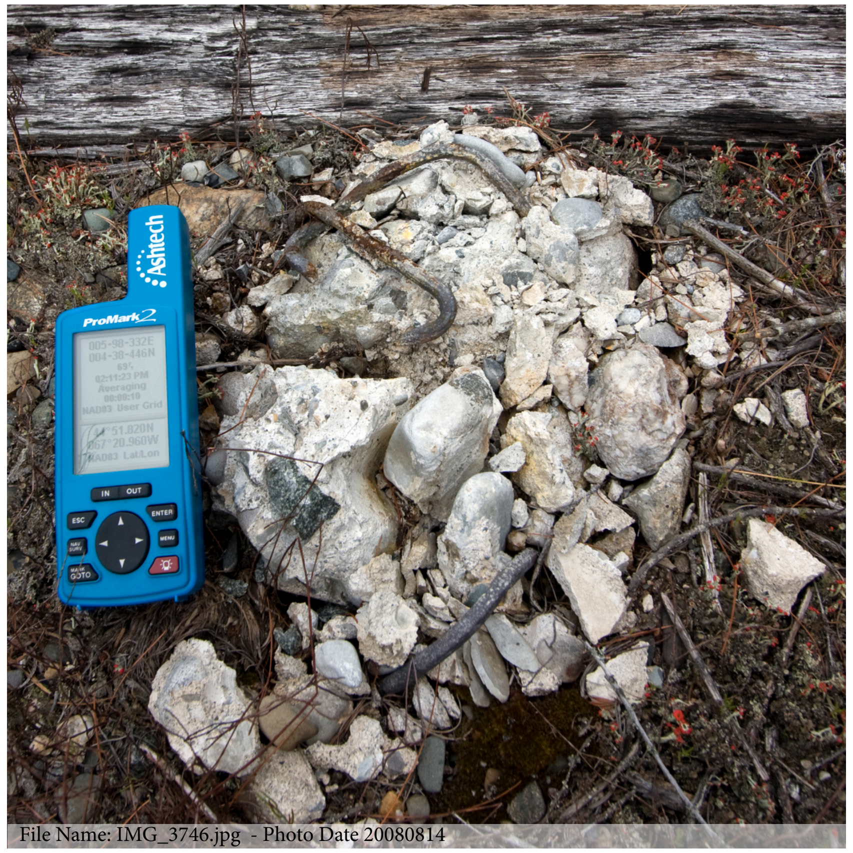


File Name: IMG_3746.jpg - Photo Date 20080814

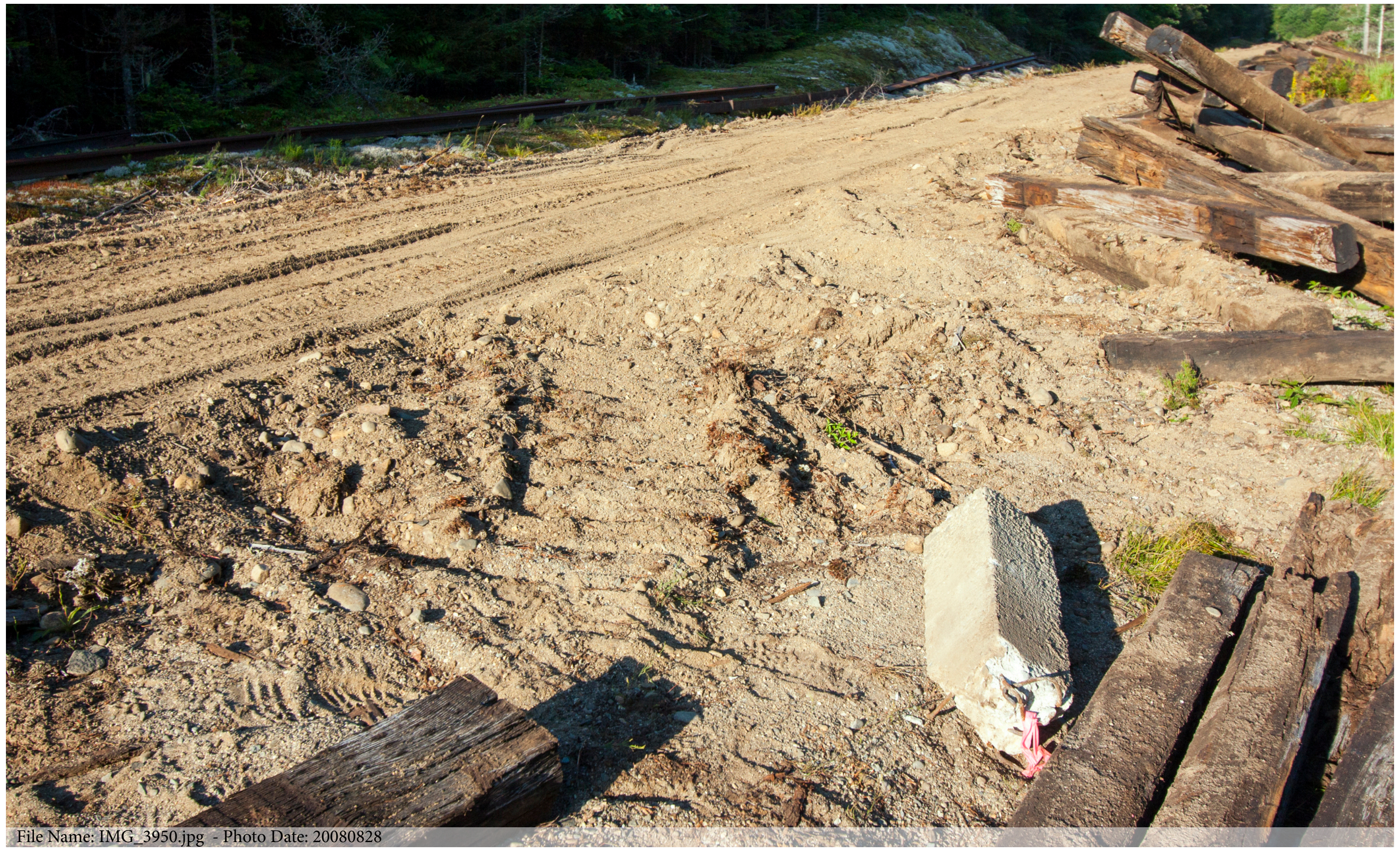
5481

In the (2) photos on the left, both dated 14 August 2008 taken during initial reconnaissance, the battered remains of the concrete monument marking the point of curvature for Station 5481+97.26 was found (reference Val Sheet V.4.104). Note the style of the exposed steel reinforcing bars seen here are basically 3/8” x 3/8” and square in section. The battered and weathered condition of the top of the monument, flush with grade as shown in this example, was frequently seen, though not always as plainly, along my search for monuments at every PC, PCC & PT between Ayers Junction and the Union River in the late summer and fall of 2008.

A week later on 21 August 2008, I located this mark during a static session lasting just over 9 hours - see details in the Ashtech Solutions Report for the RR segment between Marion Township and Ayers Junction, M2A.

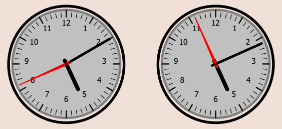
In the photo below, dated 28 August 2008, the concrete monument once marking the point of curvature for Station 5481+97.26 was found disturbed, lying to the southerly side of the railbed.

See ***Detailed & Context Monument Photos*** for most of the others.

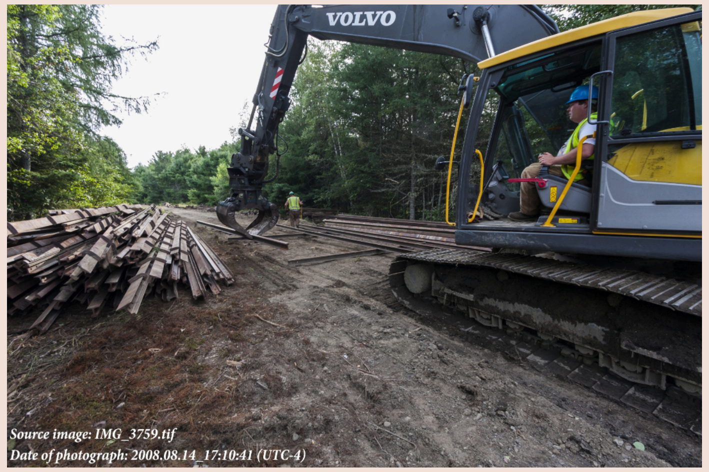


File Name: IMG_3950.jpg - Photo Date: 20080828

Story in 75 Seconds



Salvaged rails with their attached rail anchors are separated and then positioned to allow for their quick removal. Note that not every rail in the pile has anchors attached to them.



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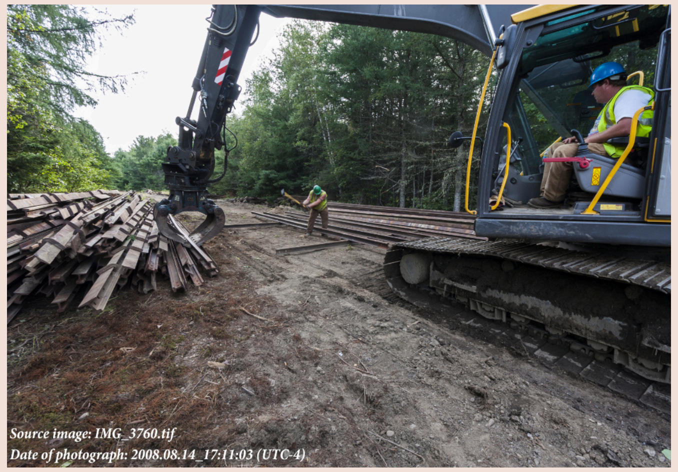

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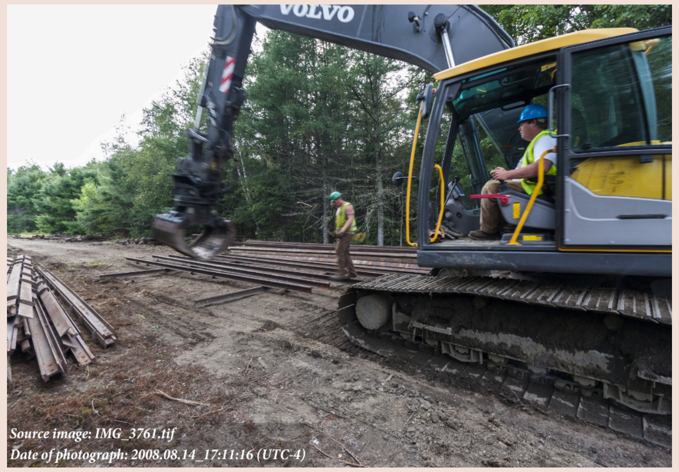

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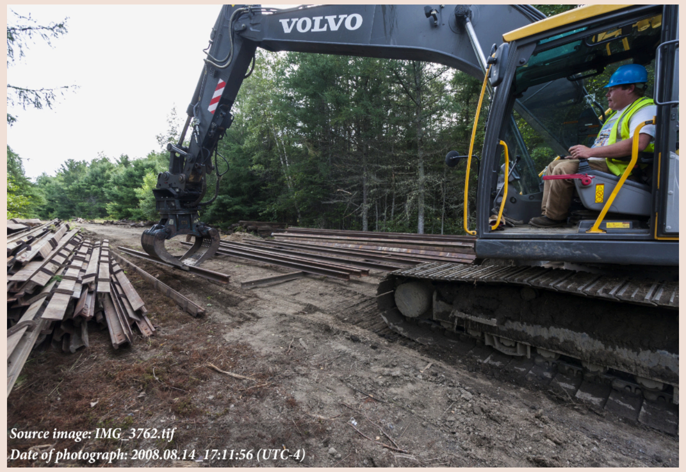

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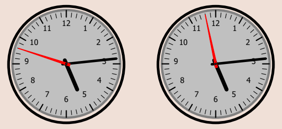
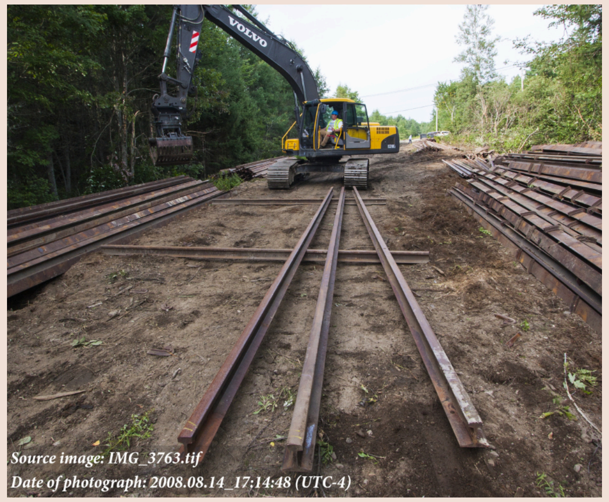
Date of photograph: 2008.08.14_17:11:56 (UTC-4)

Story in 10 Seconds



Once the rail anchors have been knocked off, they're placed on the done pile and ready to be loaded onto the flatbed trailer. Note the one truck in the distance leaving the work yard.



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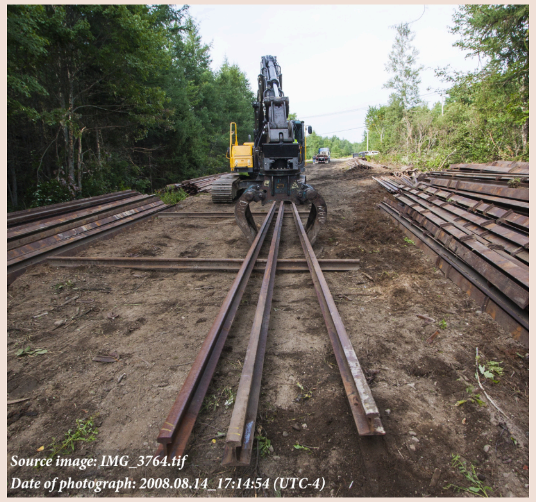

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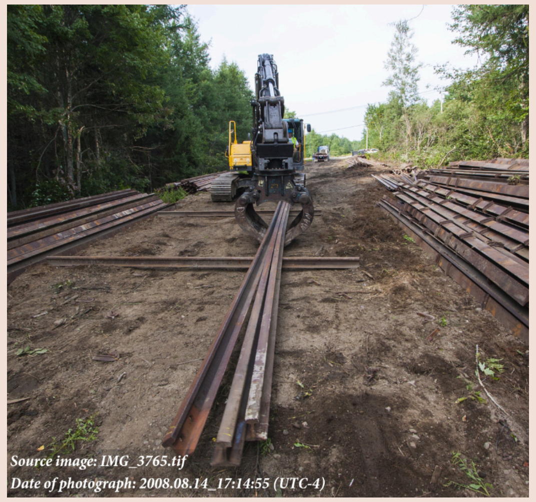

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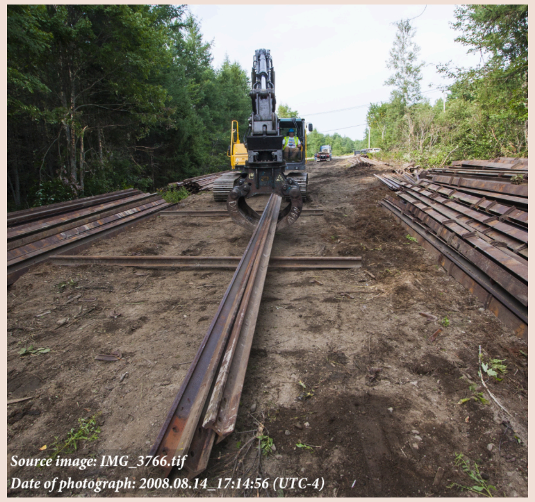

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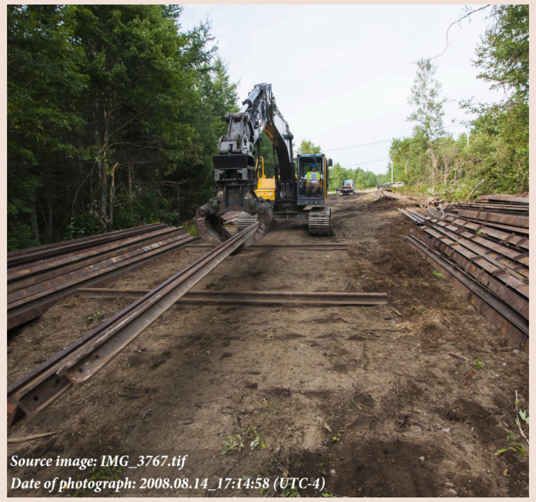

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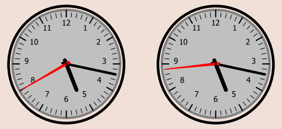
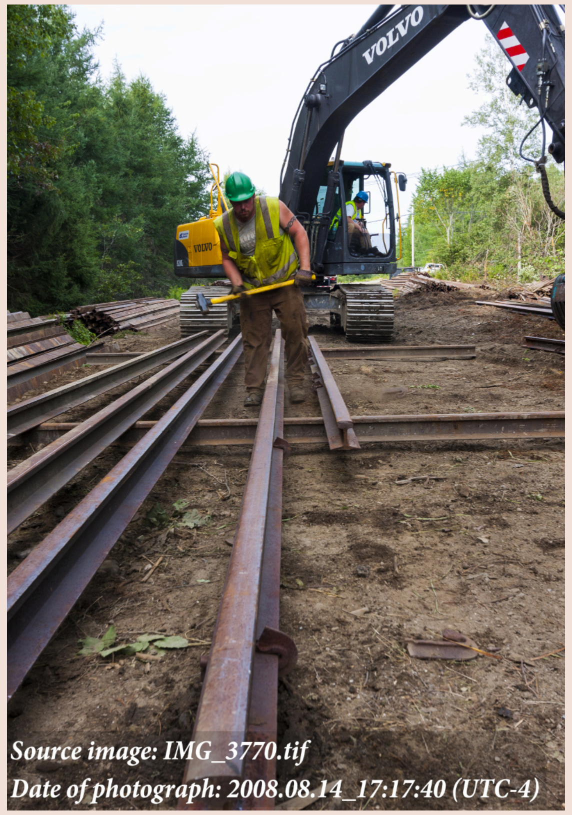
Story in 4 Seconds



While the salvaged rails are being positioned by the excavator operator, their anchors are quickly knocked off with a single swing of the sledge hammer.

Rail anchors are placed on the gage side of the rail base against the same tie face on opposite rails with (2) pair per tie every 5th or 6th tie. Steeper grades may require anchors more frequently.



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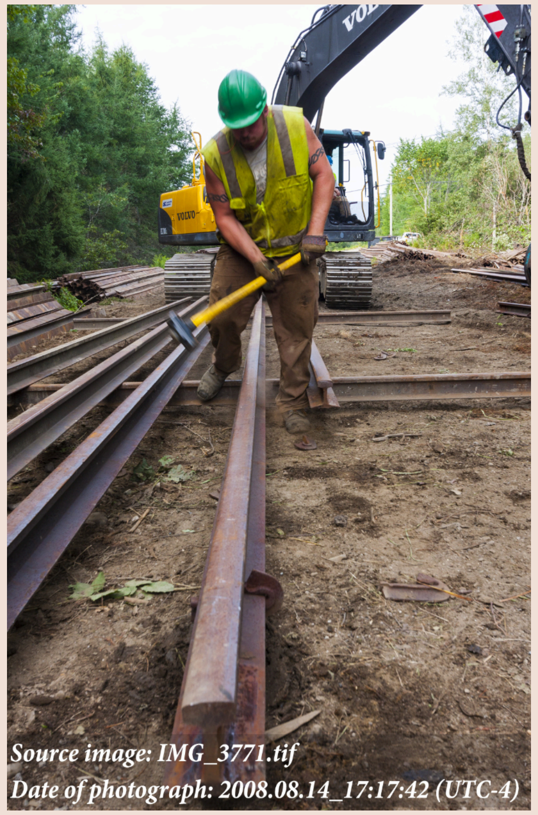

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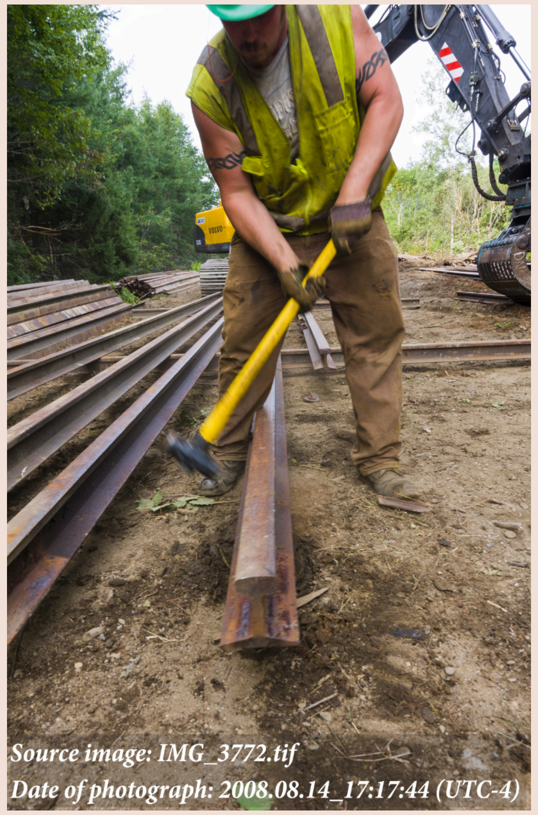

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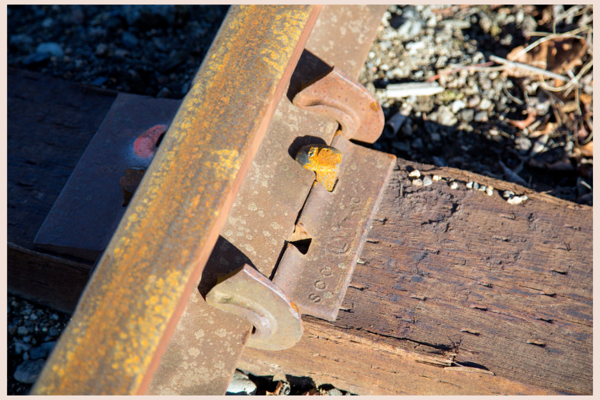
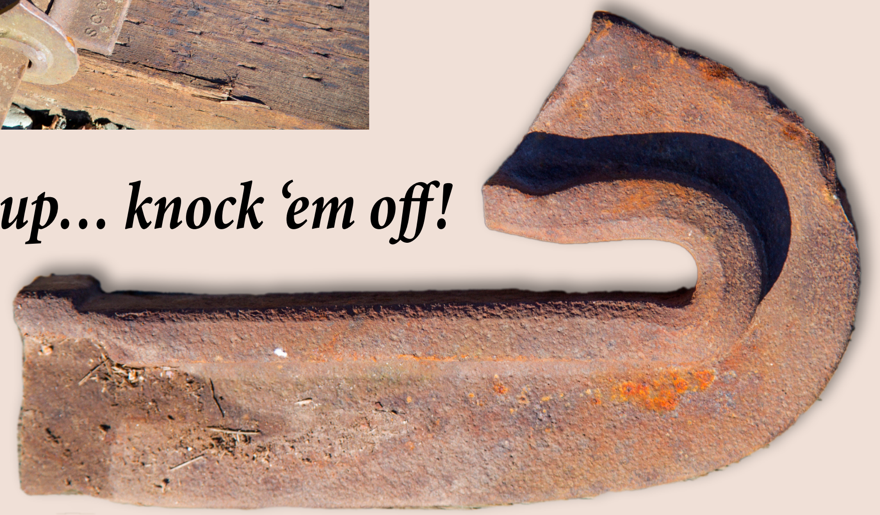


Rail Anchors

Line 'em up… knock 'em off!



M2A

Marion Township to Ayers Junction

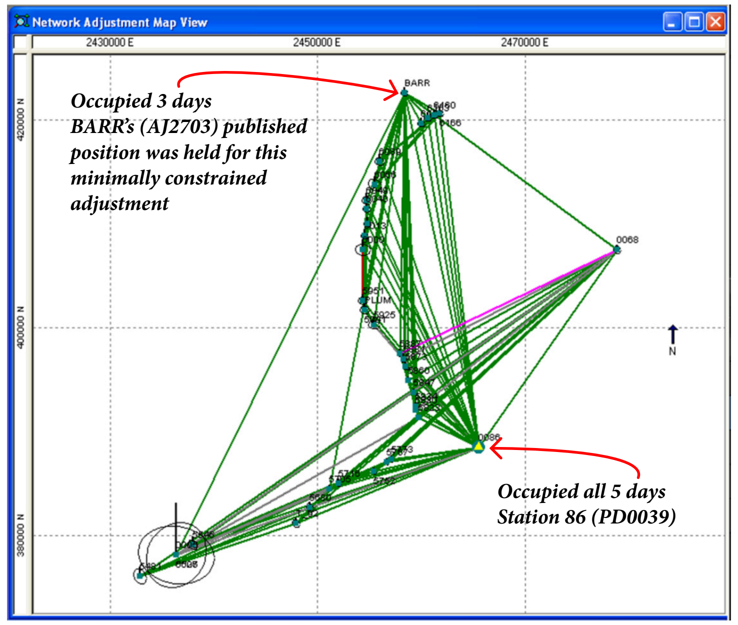
August 2008						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 214	2 215
3 216	4 217	5 218	6 219	7 220	8 221	9 222
10 223	11 224	12 225	13 226	14 227	15 228	16 229
17 230	18 231	19 232	20 233	21 234	22 235	23 236
24 237	25 238	26 239	27 240	28 241	29 242	30 243
31 244						

As previously described, the 14th was largely spent doing some preliminary reconnaissance, photography, and travel back and forth from Ellsworth to Marion Station in so much as it pertained to the section of the railroad running from Whitneyville to Marion Station.

For the purpose of discussion in **M2A**, regarding the surveying of the surviving concrete monuments between Marion Township and Ayers Junction, I've omitted the recon notes and photos from the 17th of August 2008. The work on the 17th pertains to the section of the railroad running through the Town of Franklin, Hancock County. However, that recon effort in Franklin helped to inform the logistical approach for the entire surveying project using multiple Ashtech ProMark 2, L1 only GPS receivers.

Many thanks to Ed Paré and Julien Girard for loaning their GPS equipment which would allow a maximum of (10) ProMark 2s to be set up at any one time for multiple concurrent static observations. As it turned out for these 5 days in August, there were 6 to 9 receivers running simultaneously. Many thanks to Julien for his time spent helping on the 21st and 22nd.

Prior to going in the field, I studied and printed the Val Sheets[4] and USGS quads in order to determine the best possible shortest route to drive to and park, before hiking to the Points of Curvature, Compound Curvature, and Tangency (PC, PCC, PT). More often than not, the concrete monument that was shown on the Val Sheet would not be found. Over the entire project, only about one third of the 350-plus called-for monuments as shown on the Val Sheets did I actually find and locate between the Union River and Ayers Junction.



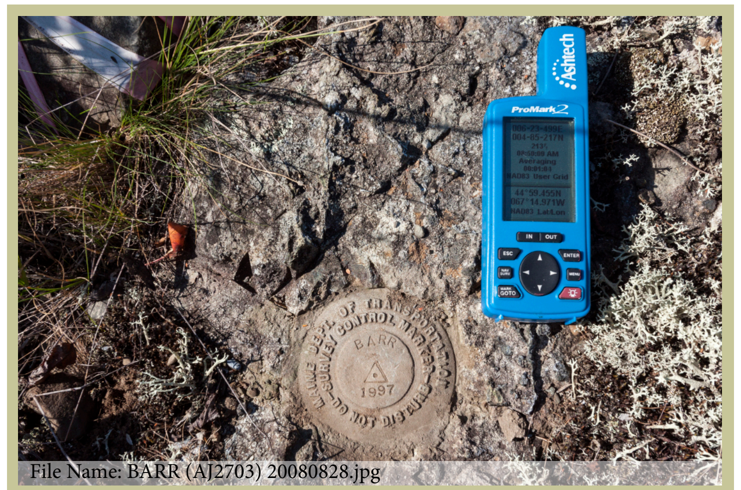
The above network adjustment map is from Ashtech Solutions v2.70 showing all processed vectors for **M2A**. Vectors colored gray were excluded from the final adjustment. The minimally constrained adjustment held station BARR's (AJ2703) published NAD83(2011) Epoch 2010.0000 ellipsoidal position. Station BARR, the northernmost control point, was occupied for 3 of the 5 days. Station 86 (PD0039) was occupied all 5 days. BARR's (AJ2703) published NAD83(2011) Epoch 2010.0000 ellipsoidal position was held as the single control point for the **M2A** project.

For details including positional residuals and occupation times see Appendix D - Ashtech Solutions Reports - Marion to Ayers Junction.

CONTROL

```
1         National Geodetic Survey,   Retrieval Date = JANUARY  5, 2023
 AJ2703 ***********************************************************************
 AJ2703  CBN          -  This is a Cooperative Base Network Control Station.
 AJ2703  DESIGNATION -  BARR
 AJ2703  PID         -  AJ2703
 AJ2703  STATE/COUNTY-  ME/WASHINGTON
 AJ2703  COUNTRY     -  US
 AJ2703  USGS QUAD   -  PEMBROKE (2018)
 AJ2703
 AJ2703                          *CURRENT SURVEY CONTROL
 AJ2703  ______________________________________________________________________
 AJ2703* NAD 83(2011) POSITION- 44 59 27.26319(N) 067 14 58.18032(W)   ADJUSTED
 AJ2703* NAD 83(2011) ELLIP HT-    37.887 (meters)        (06/27/12)   ADJUSTED
 AJ2703* NAD 83(2011) EPOCH   -  2010.00
 AJ2703* NAVD 88 ORTHO HEIGHT -    60.9   (meters)      200.    (feet) GPS OBS
 AJ2703  ______________________________________________________________________
```

```
1         National Geodetic Survey,   Retrieval Date = JANUARY  5, 2023
 PD0039 ***********************************************************************
 PD0039  DESIGNATION -  86
 PD0039  PID         -  PD0039
 PD0039  STATE/COUNTY-  ME/WASHINGTON
 PD0039  COUNTRY     -  US
 PD0039  USGS QUAD   -  PEMBROKE (2018)
 PD0039
 PD0039                          *CURRENT SURVEY CONTROL
 PD0039  ______________________________________________________________________
 PD0039* NAD 83(1986) POSITION- 44 53 49.     (N) 067 13 22.     (W)   SCALED
 PD0039* NAVD 88 ORTHO HEIGHT -    26.328 (meters)       86.38  (feet) ADJUSTED
 PD0039  ______________________________________________________________________
 PD0039  GEOID HEIGHT    -       -22.824 (meters)                      GEOID18
 PD0039  DYNAMIC HEIGHT  -        26.328 (meters)       86.38  (feet) COMP
 PD0039  MODELED GRAVITY -   980,607.5   (mgal)                        NAVD 88
 PD0039
 PD0039  VERT ORDER      -  FIRST     CLASS II
```


File Name: BARR (AJ2703) 20080828.jpg

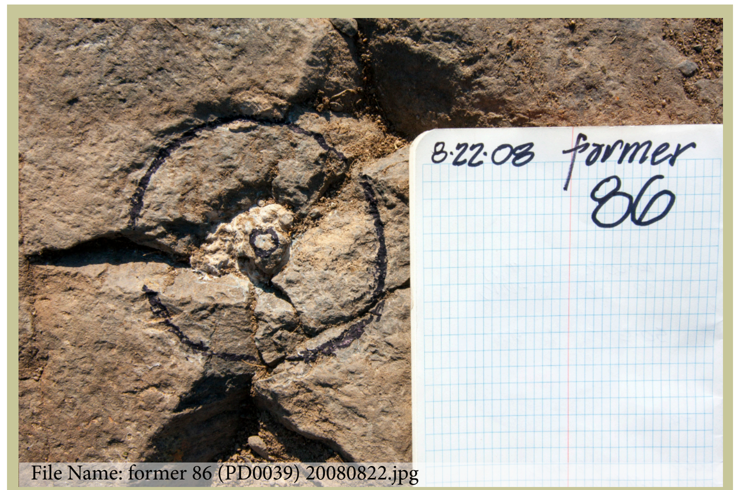
File Name: BARR (AJ2703) looking north 20080828.jpg

BARR (AJ2703)

BARR (AJ2703) - The mark was occupied 3 of the 5 days during the survey and was held as the only constraint (H & V) during processing

```
1         National Geodetic Survey,   Retrieval Date = JANUARY  5, 2023
 PD0035 ***********************************************************************
 PD0035  DESIGNATION -  68
 PD0035  PID         -  PD0035
 PD0035  STATE/COUNTY-  ME/WASHINGTON
 PD0035  COUNTRY     -  US
 PD0035  USGS QUAD   -  PEMBROKE (2018)
 PD0035
 PD0035                          *CURRENT SURVEY CONTROL
 PD0035  ______________________________________________________________________
 PD0035* NAD 83(1986) POSITION- 44 56 56.     (N) 067 10 16.     (W)   SCALED
 PD0035* NAVD 88 ORTHO HEIGHT -    20.676 (meters)       67.83  (feet) ADJUSTED
 PD0035  ______________________________________________________________________
 PD0035  GEOID HEIGHT    -       -22.792 (meters)                      GEOID18
 PD0035  DYNAMIC HEIGHT  -        20.676 (meters)       67.83  (feet) COMP
 PD0035  MODELED GRAVITY -   980,613.6   (mgal)                        NAVD 88
 PD0035
 PD0035  VERT ORDER      -  SECOND    CLASS 0
```

```
1         National Geodetic Survey,   Retrieval Date = JANUARY  5, 2023
 PD0164 ***********************************************************************
 PD0164  DESIGNATION -  T 92
 PD0164  PID         -  PD0164
 PD0164  STATE/COUNTY-  ME/WASHINGTON
 PD0164  COUNTRY     -  US
 PD0164  USGS QUAD   -  PORCUPINE MOUNTAIN (2018)
 PD0164
 PD0164                          *CURRENT SURVEY CONTROL
 PD0164  ______________________________________________________________________
 PD0164* NAD 83(1986) POSITION- 44 52 38.     (N) 067 17 28.     (W)   SCALED
 PD0164* NAVD 88 ORTHO HEIGHT -    28.018 (meters)       91.92  (feet) ADJUSTED
 PD0164  ______________________________________________________________________
 PD0164  GEOID HEIGHT    -       -22.939 (meters)                      GEOID18
 PD0164  DYNAMIC HEIGHT  -        28.017 (meters)       91.92  (feet) COMP
 PD0164  MODELED GRAVITY -   980,595.2   (mgal)                        NAVD 88
 PD0164 PD0164  VERT ORDER      -  FIRST     CLASS I
```



File Name: former 86 (PD0039) 20080822.jpg

File Name: former 86 (PD0039) looking south 20080822.jpg

86 (PD0039)

86 (PD0039) - The mark was recovered and occupied by the externally powered ProMark 2 each of the 5 days during the survey noting that the agency brass disk was missing. The chiseled circle made in the exposed ledge that originally had accommodated the disk was; however, still plainly visible and its center was easily determined. The post-processed NAVD88 ortho height (GEOID18) of 86.219 feet reasonably compared with its published value of 86.378 feet. NGS now (2026) lists this mark as destroyed.

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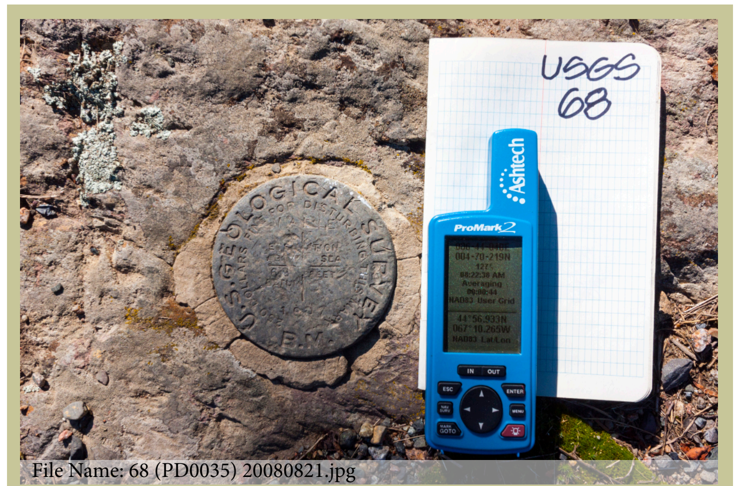
[4] Valuation Sheets V.4.102 through V.4.117 entitled "Right of Way and Track Map, Maine Central Railroad" dated June 30, 1916 on file with the Maine Department of Transportation. My thanks to Nathan Moulton at MDOT for his help.

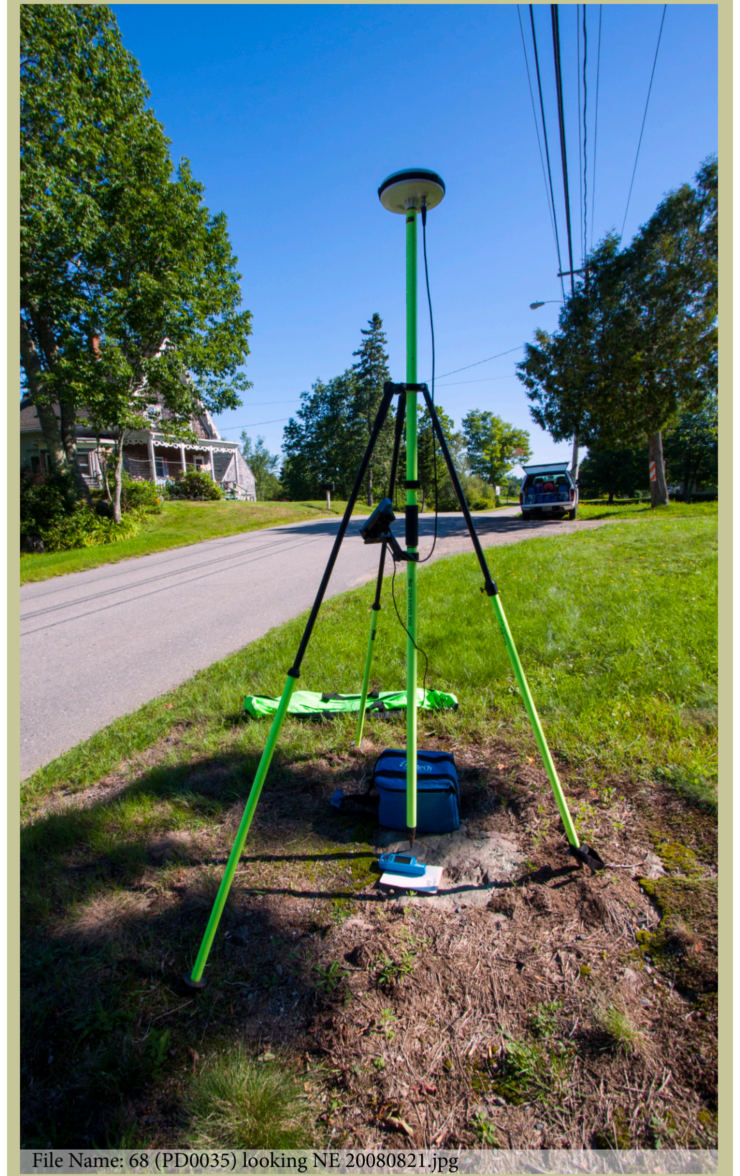
Detailed & Context Monument Photos

GENERAL NOTES - All of the surveyed concrete monuments in ***M2A*** were photographed except 5546. Most of the other recovered monuments west of Whitneyville were not photographed due to time.

In general, the photograph's file name reflects the station ID, the Val Sheet on which it can be found, the rough direction of the view, the date of the photo, and the original file name when shot.



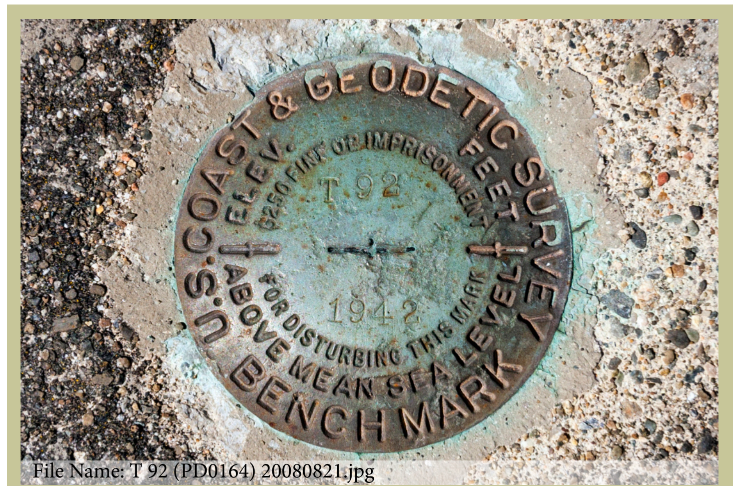
File Name: 68 (PD0035) 20080821.jpg



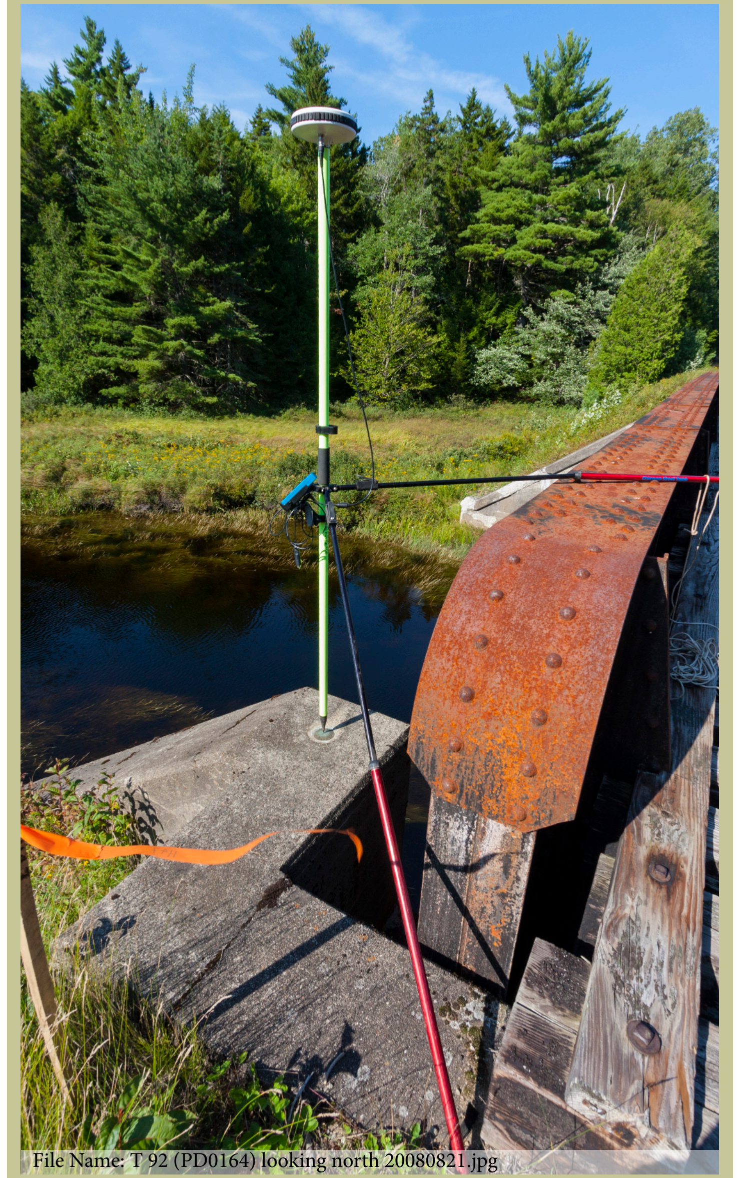
File Name: 68 (PD0035) looking NE 20080821.jpg

68 (PD0035)

68 (PD0035) - The mark was recovered and occupied 2 of the 5 days during the survey. The post processed NAVD88 ortho height (GEOID18) of 67.749 feet was compared with its published value 67.835 feet.


U.S. COAST & GEODETIC SURVEY
ELEV.
FEET
$250 FINE OR IMPRISONMENT FOR DISTURBING THIS MARK
T 92
1942
ABOVE MEAN SEA LEVEL
BENCH MARK

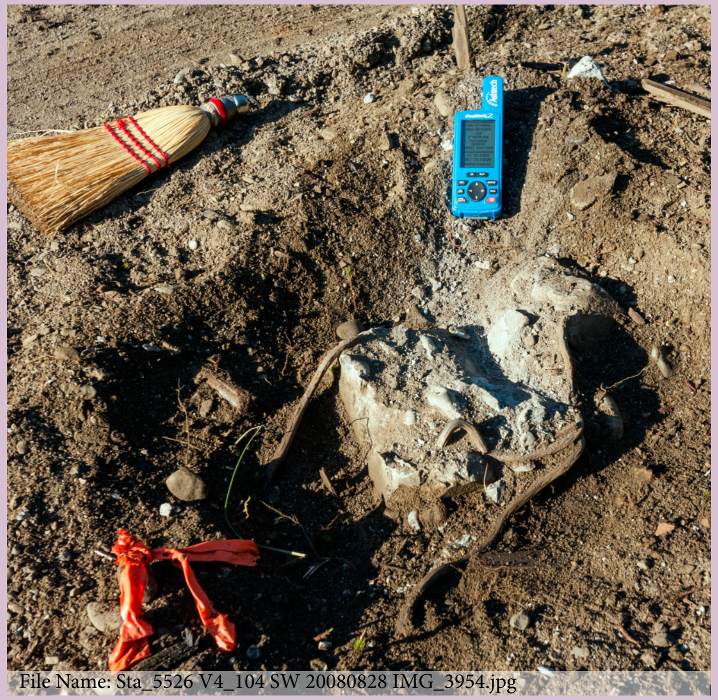
File Name: T 92 (PD0164) 20080821.jpg



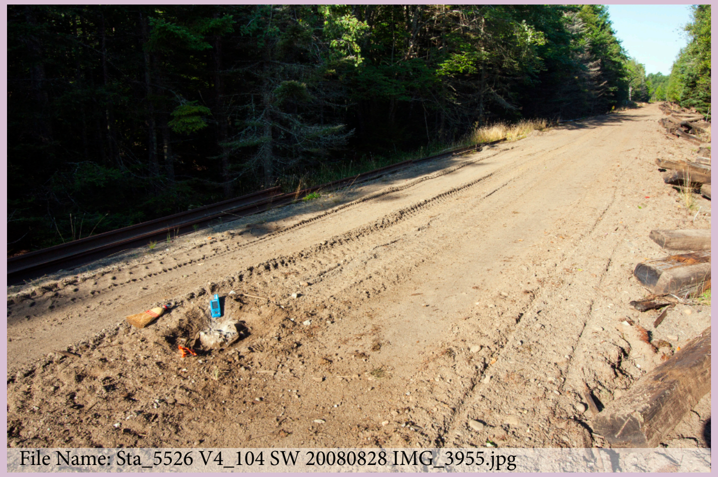
File Name: T 92 (PD0164) looking north 20080821.jpg

T 92 (PD0164)

T 92 (PD0164) - The mark was recovered and occupied for 1 hour during the survey as a check. The post processed NAVD88 ortho height (GEOID18) of 91.835 feet was compared with its published value 91.923 feet.



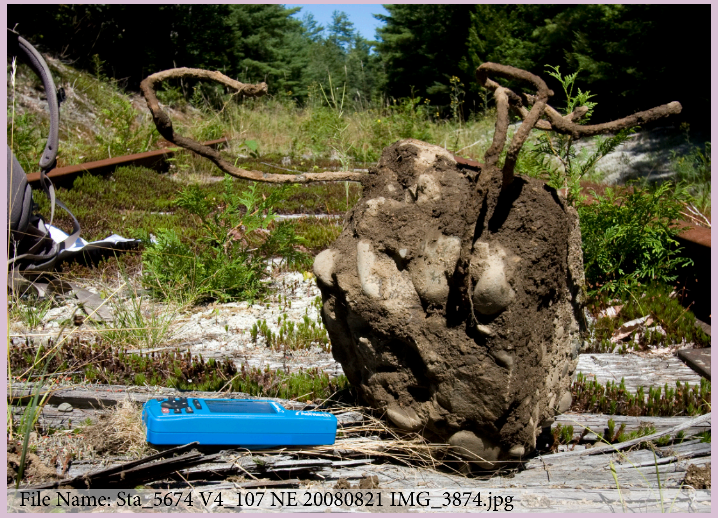
File Name: Sta_5526 V4_104 SW 20080828 IMG_3954.jpg



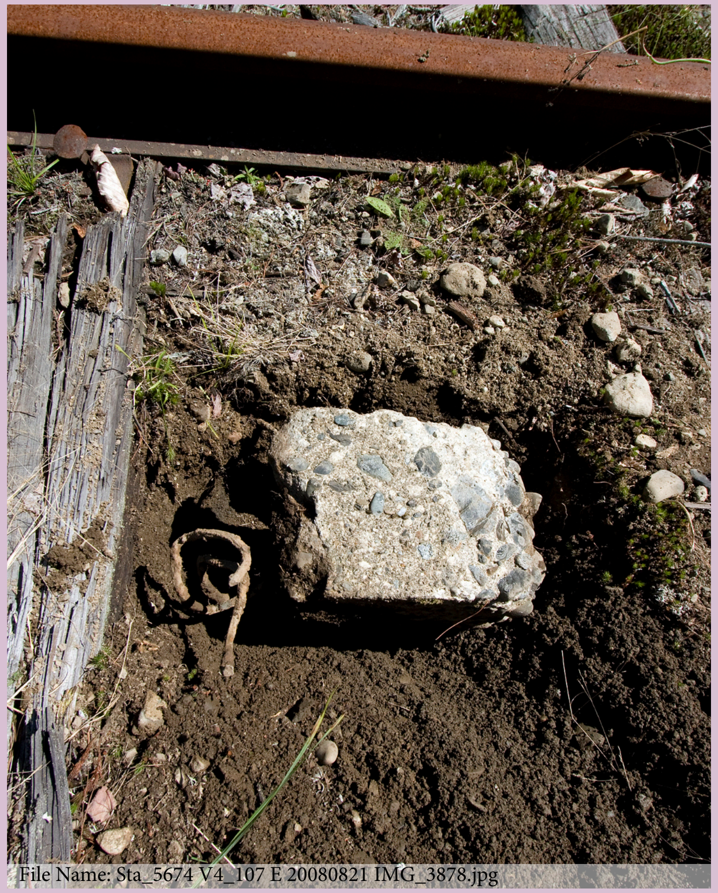
File Name: Sta_5526 V4_104 SW 20080828 IMG_3955.jpg

5526

5526 - Similar to Station 5481, 5526 was occupied with GPS equipment on 20080822 and photographed on 20080828 after the demolition crew had advanced; however, in this instance, the concrete monument remained in the roadbed.



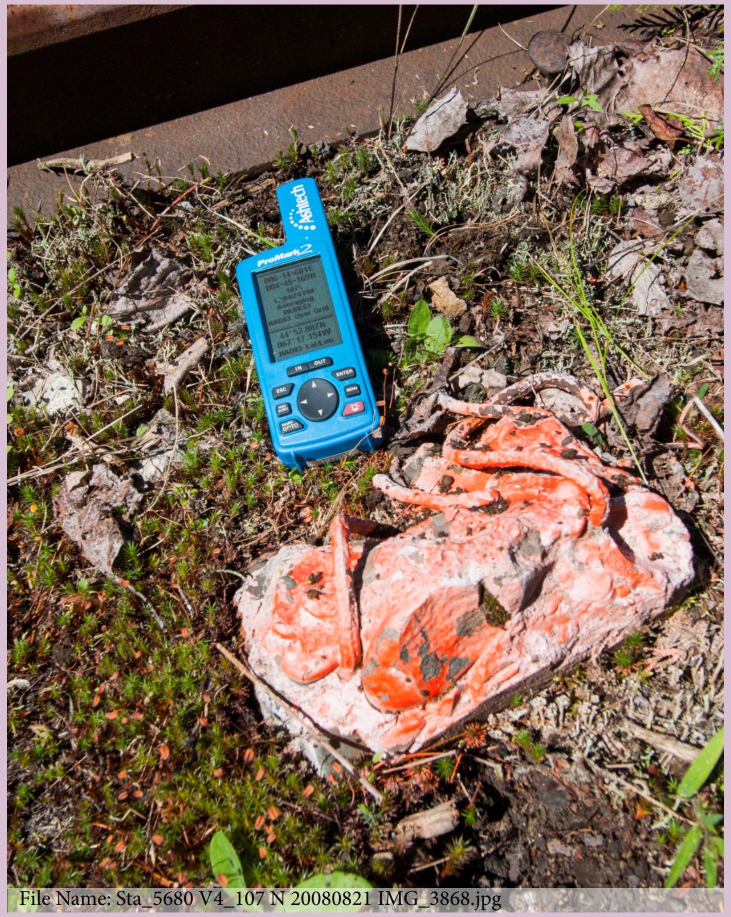
File Name: Sta_5674 V4_107 NE 20080821 IMG_3874.jpg



File Name: Sta_5674 V4_107 E 20080821 IMG_3878.jpg

5674

5674 - This broken concrete chunk, buried flush with grade, was not surveyed, though it was in the vicinity of the point of tangency. After digging up the broken top of the monument, its base was not found.



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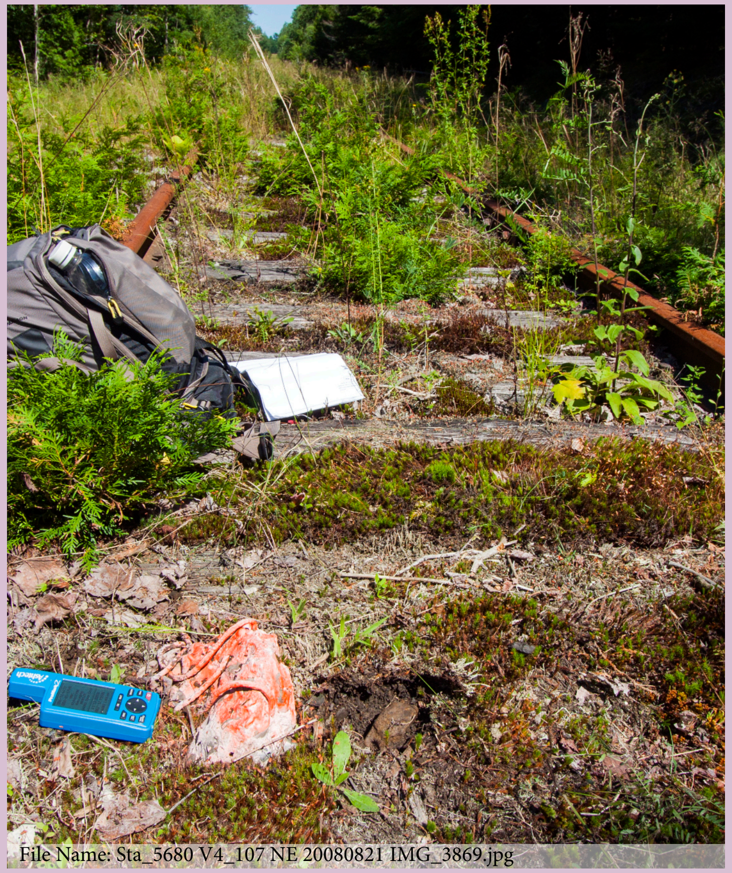
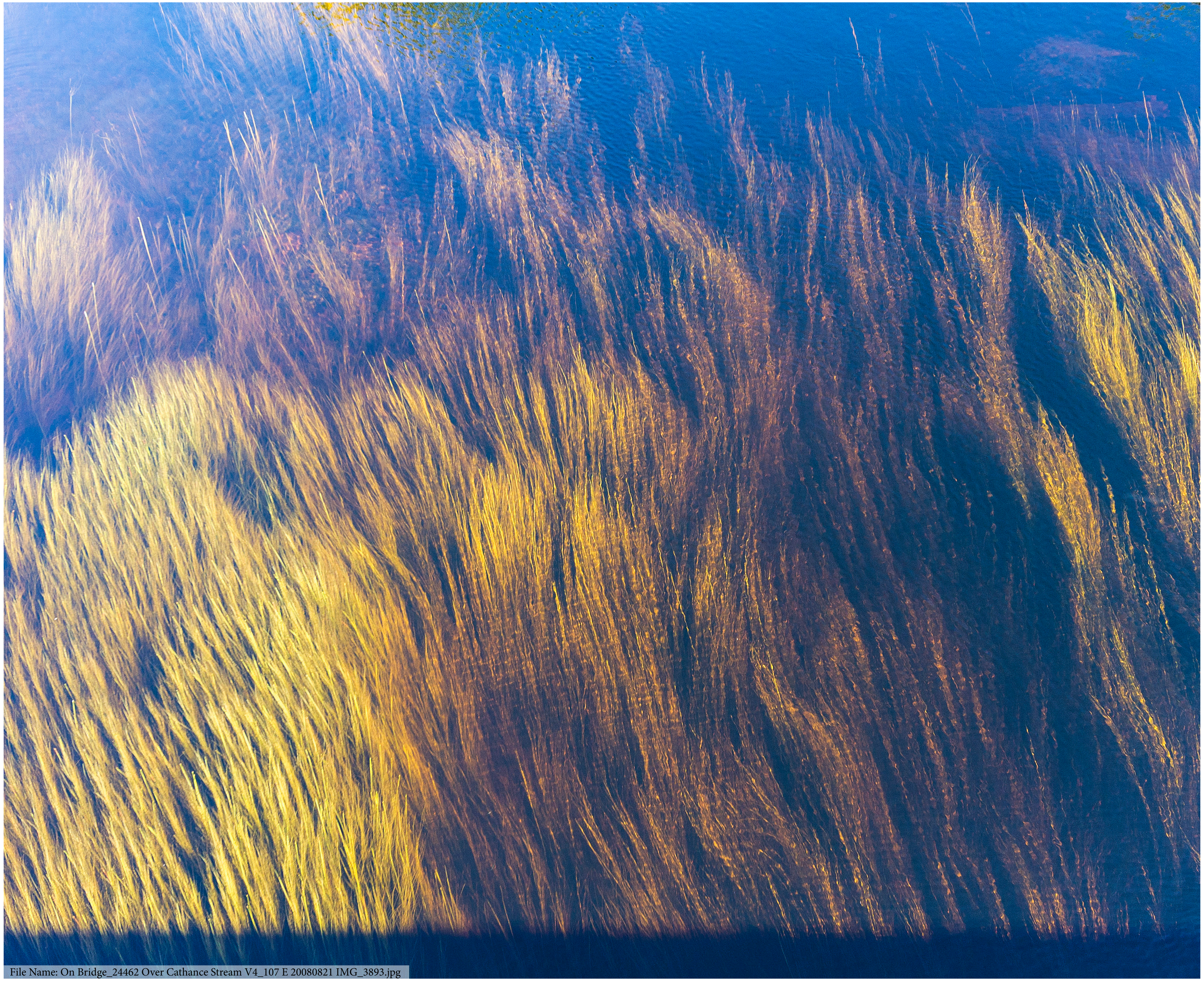


File Name: Sta_5680 V4_107 NE 20080821 IMG_3869.jpg

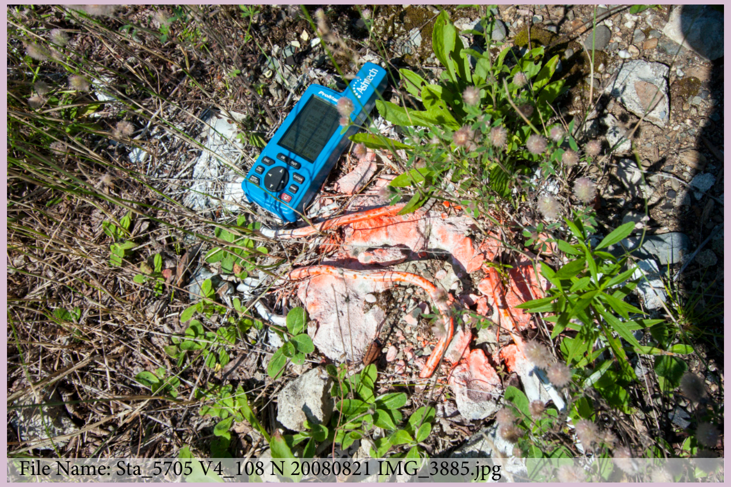
5680



File Name: On Bridge_24462 Over Cathance Stream V4_107 E 20080821 IMG_3893.jpg

Cathance Stream

File Name: On Bridge_24462 Over Cathance Stream V4_107 E 20080821 IMG_3896.jpg



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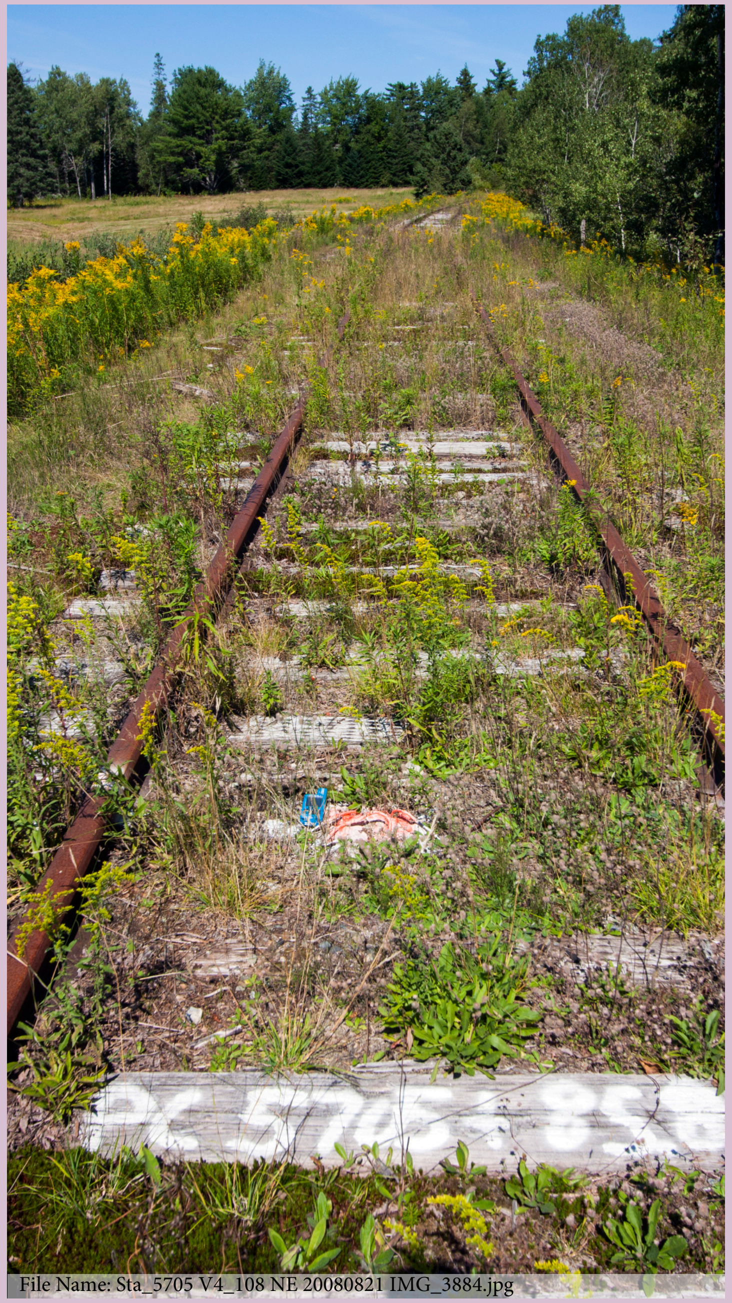

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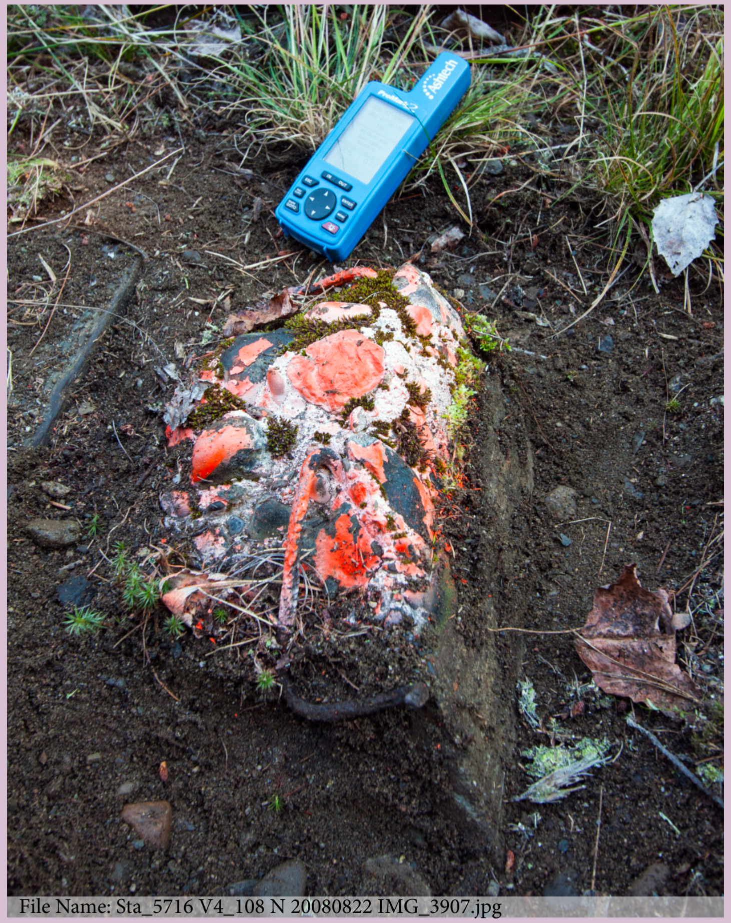
5705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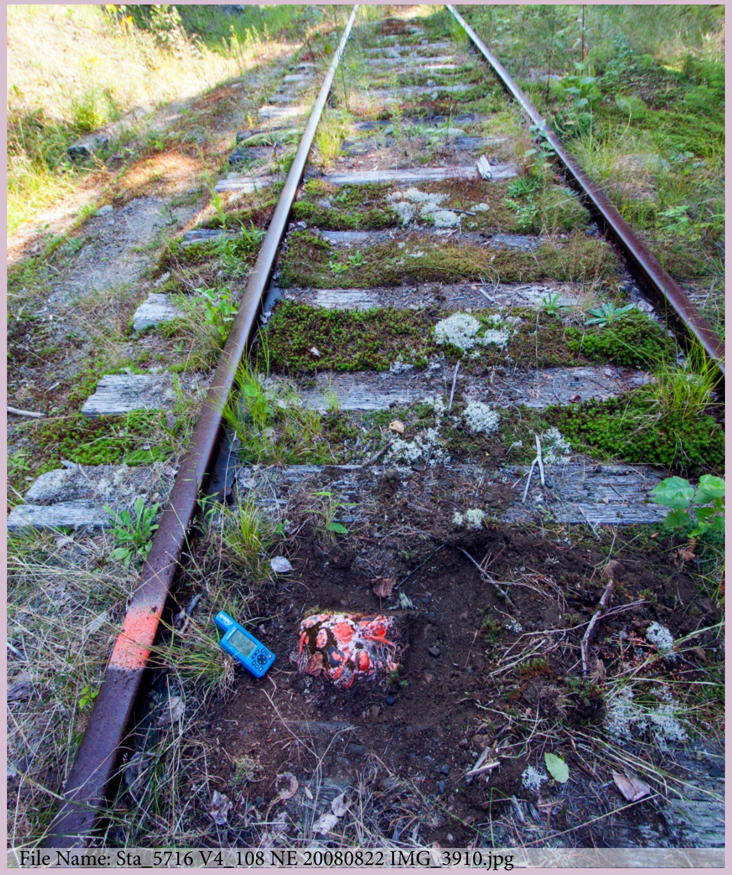
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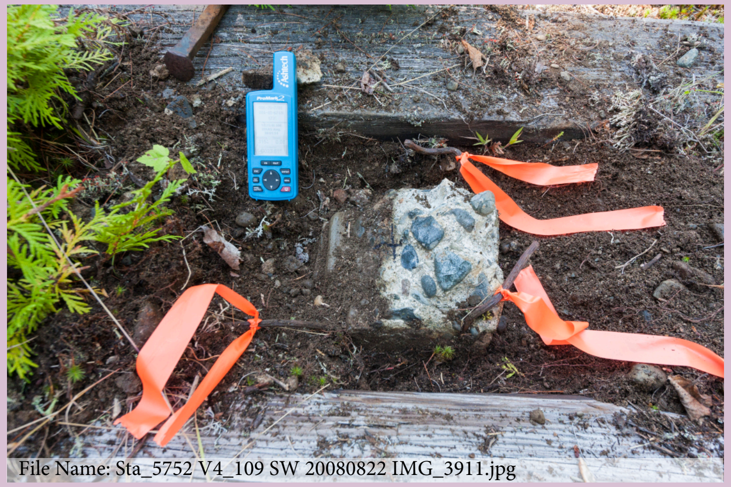
5716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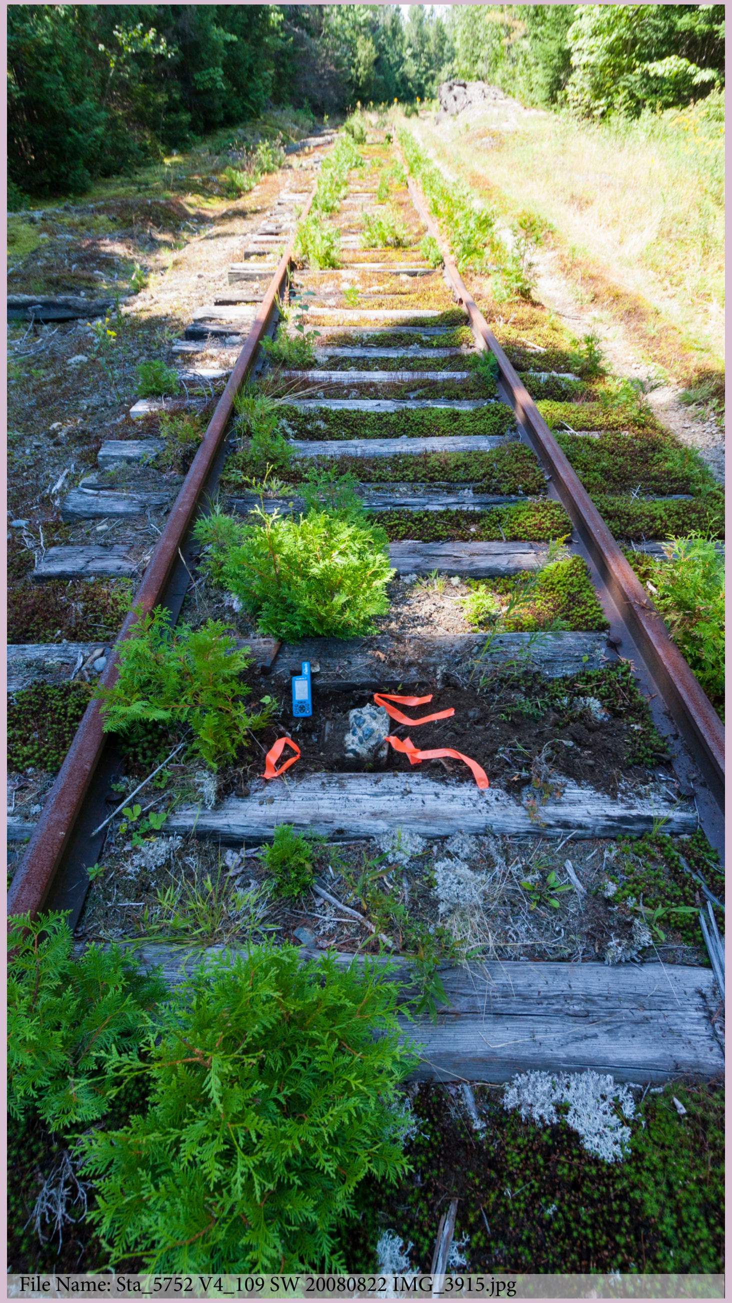
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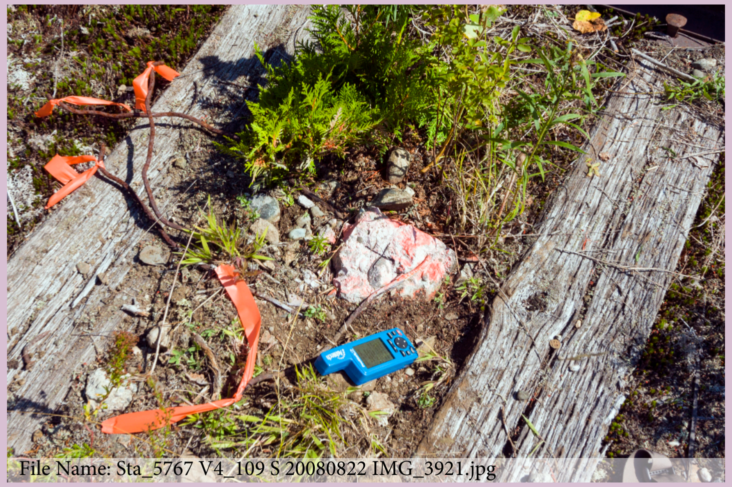
5752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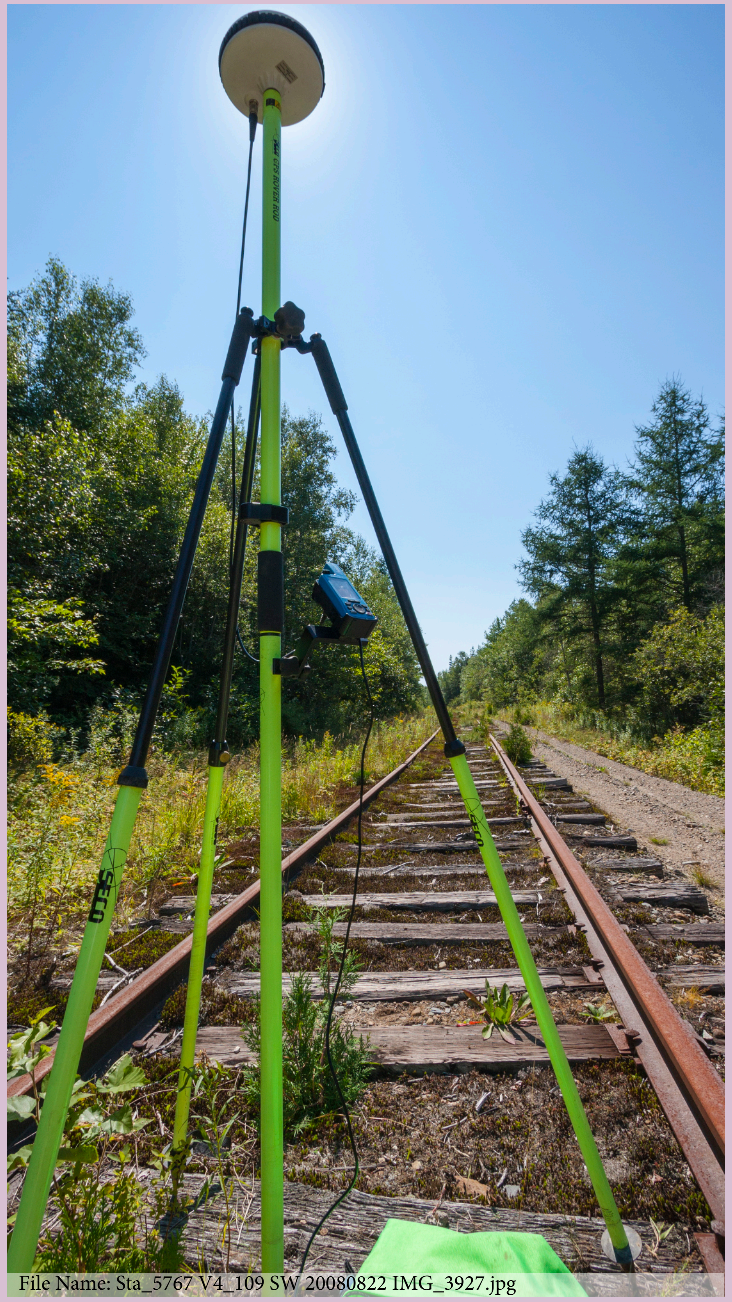
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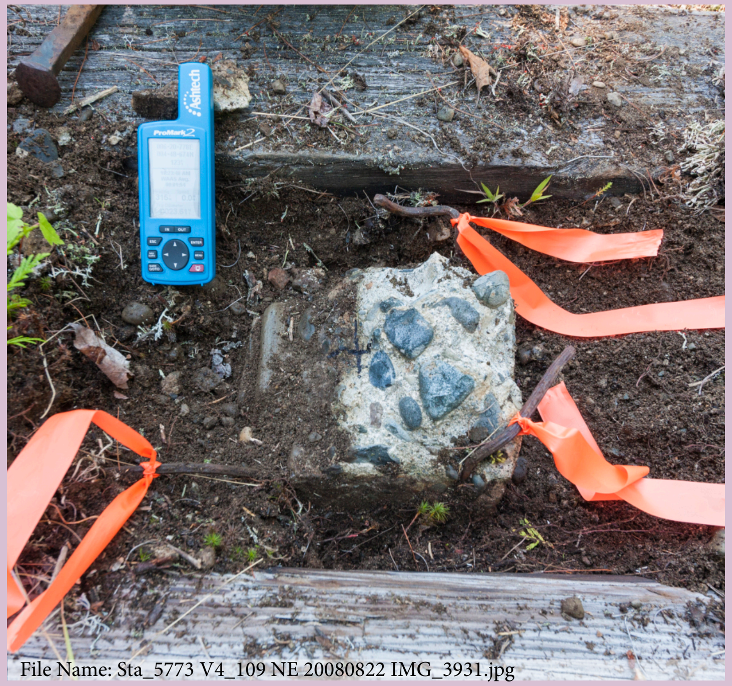
5767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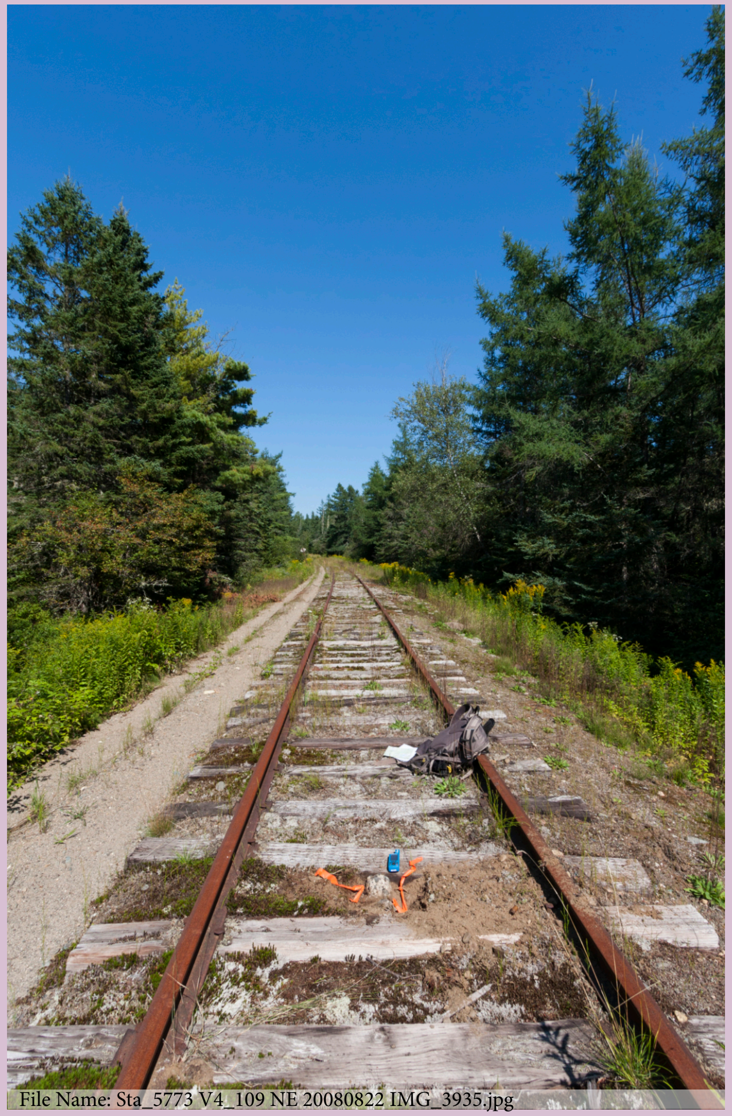
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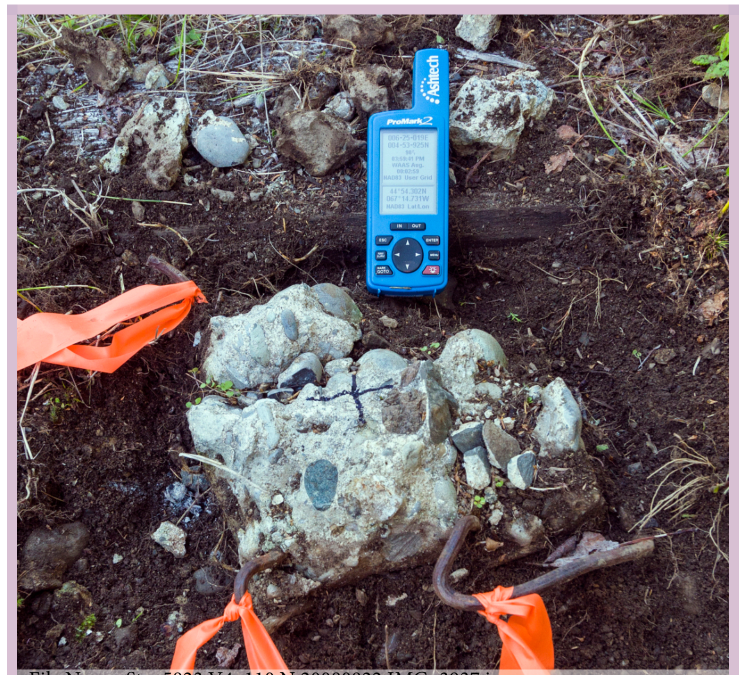
5773



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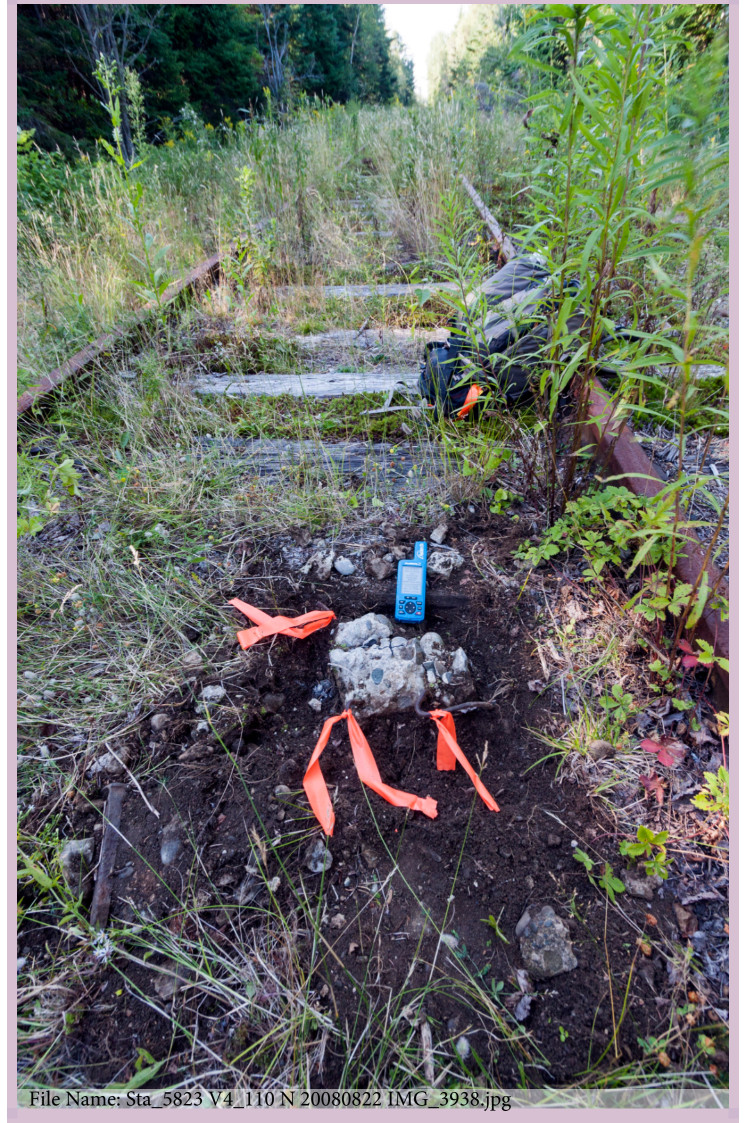


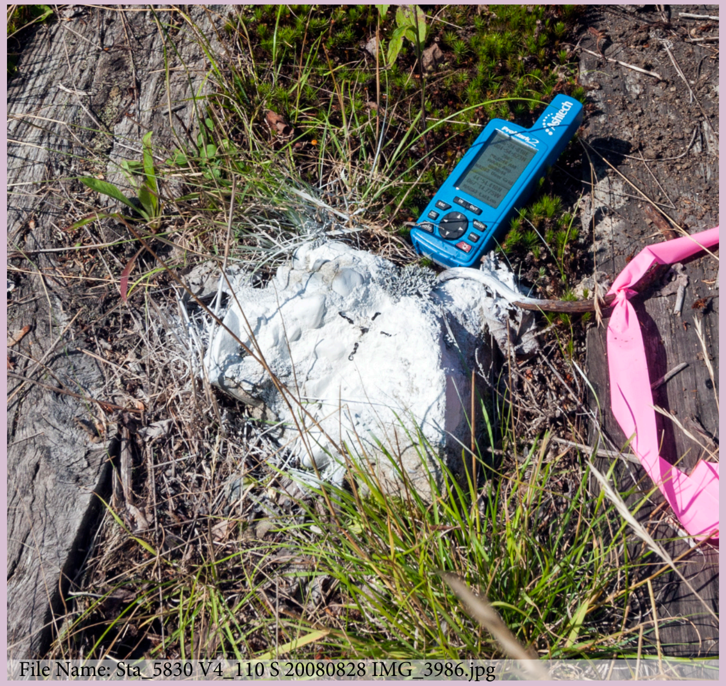
File Name: Sta_5823 V4_110 N 20080822 IMG_3938.jpg

5823

Dennys River

File Name: Bridge 24742 Over Dennys River V4_110 W 20080822 IMG_3943.jpg

1898 - "*A first class bridge was necessary at the Dennys River. In each abutment of this structure, 800 tons of granite were used. The span was 103 feet long and rose 31 feet above the river level.*", pg 157, The Sunrise Route, A History of the Railroads of Washington County, Maine by Michael W. Zimmerman, 1985, Cay-Bel Publishing Co.



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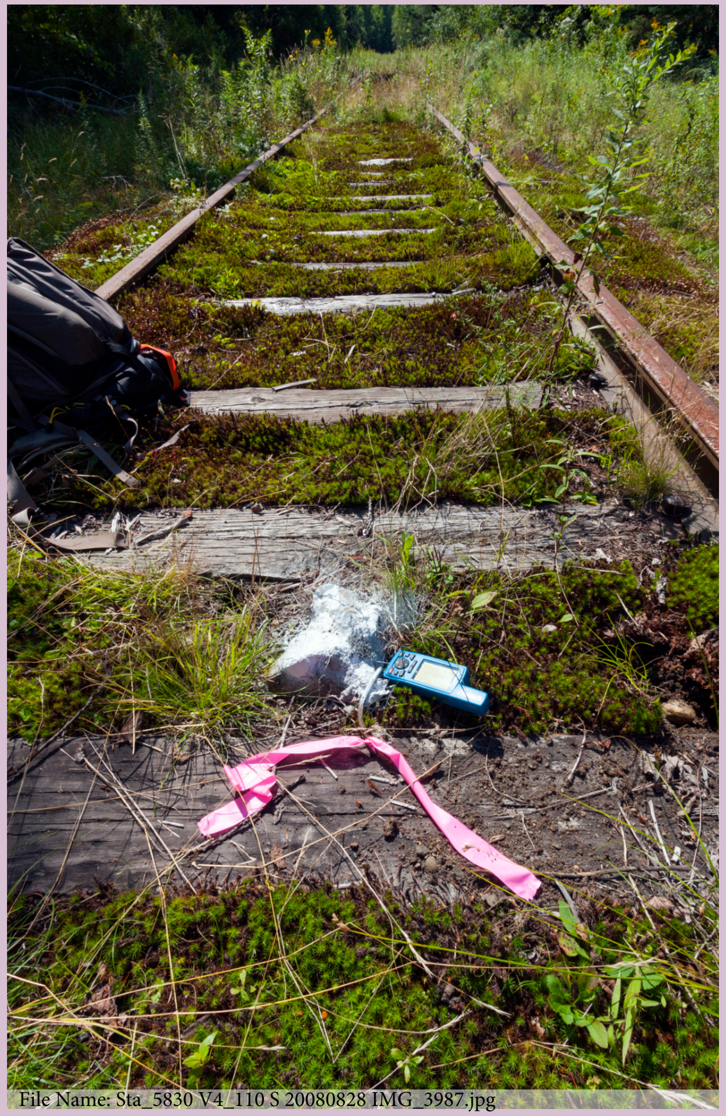
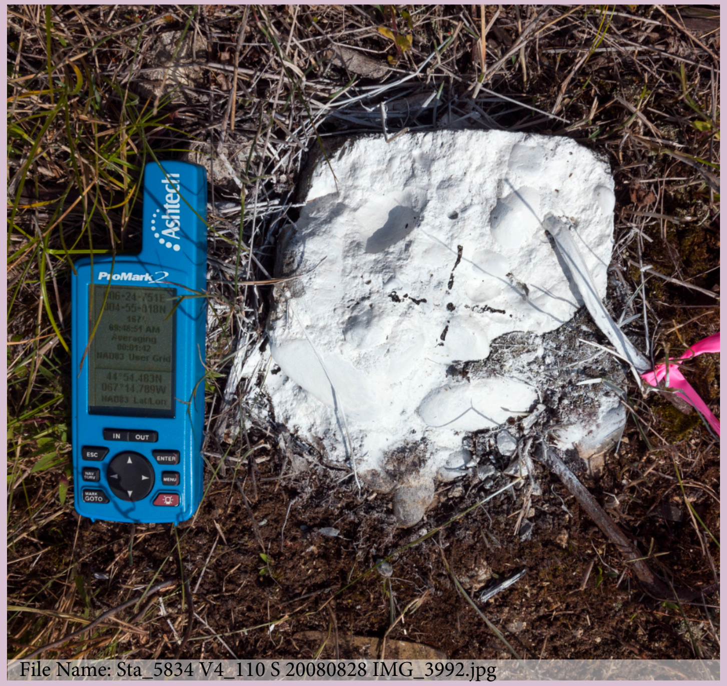


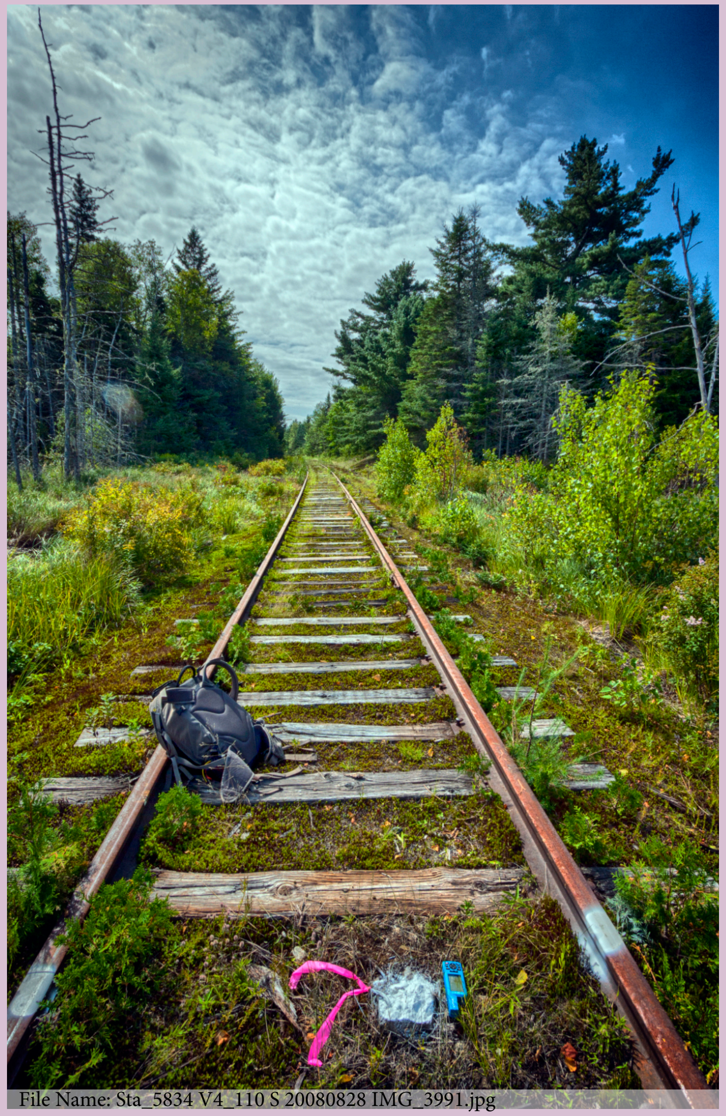
File Name: Sta_5830 V4_110 S 20080828 IMG_3987.jpg

5830

Big Meadow Brook

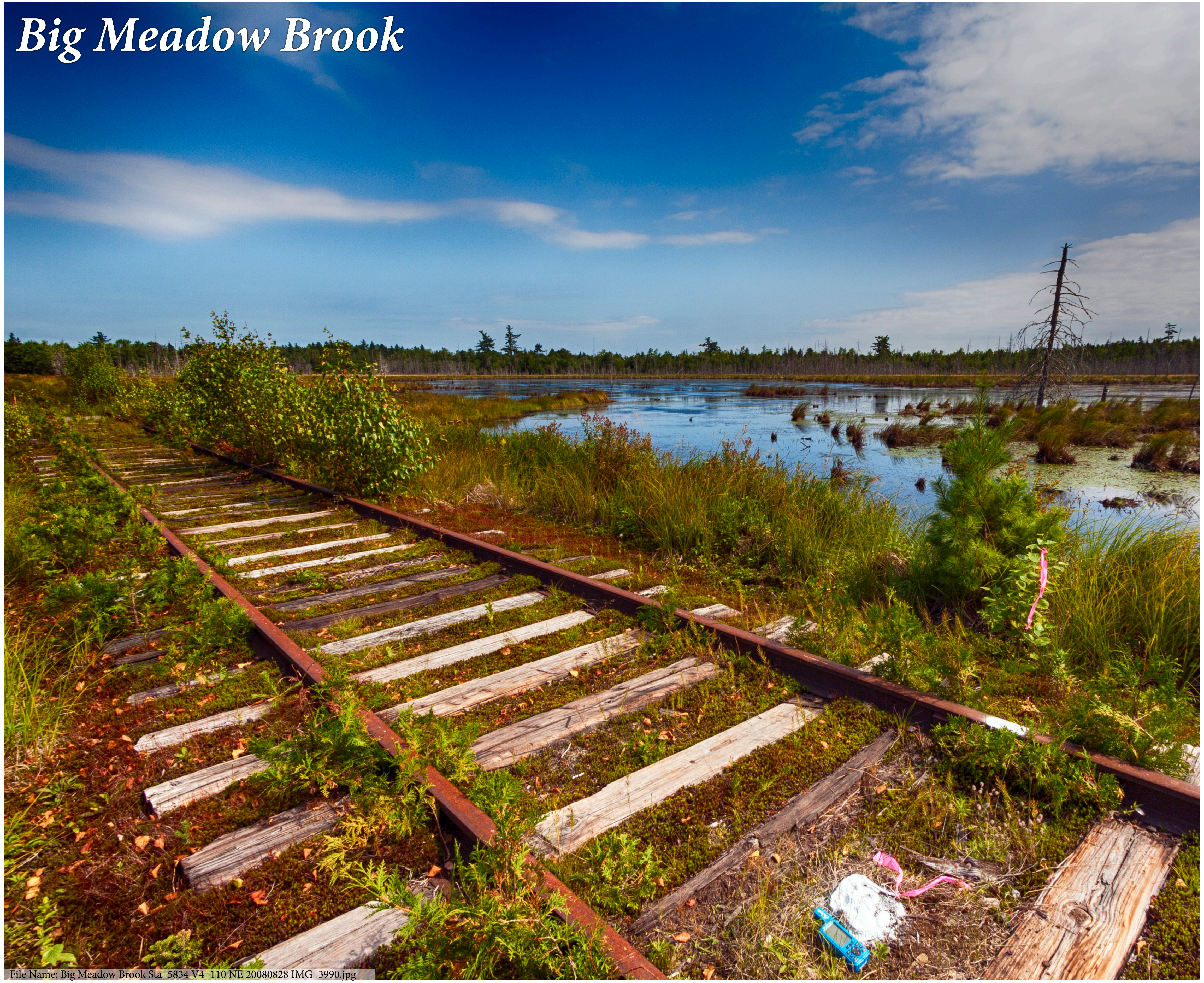


File Name: Sta_5834 V4_110 S 20080828 IMG_3992.jpg



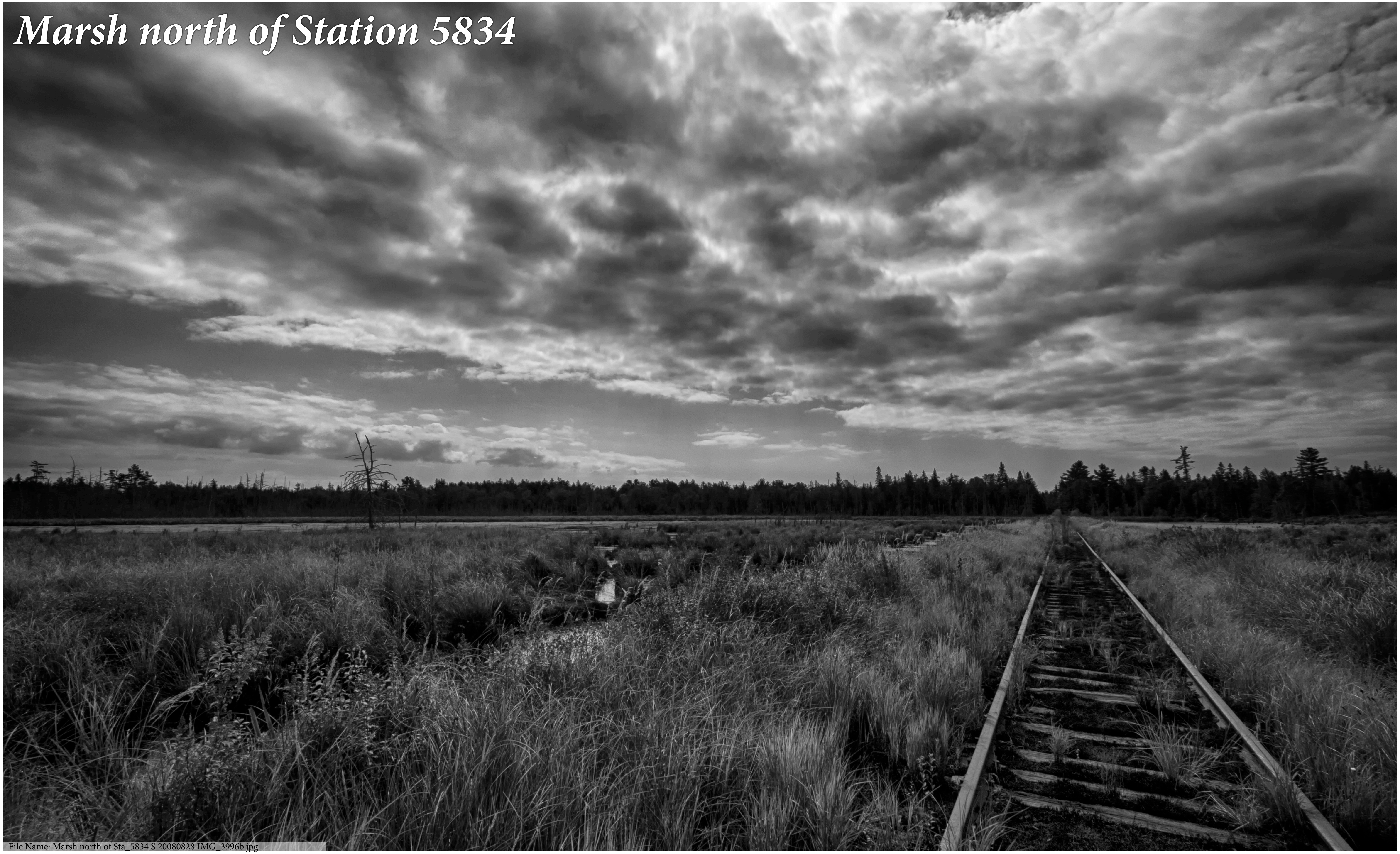
File Name: Sta_5834 V4_110 S 20080828 IMG_3991.jpg

5834



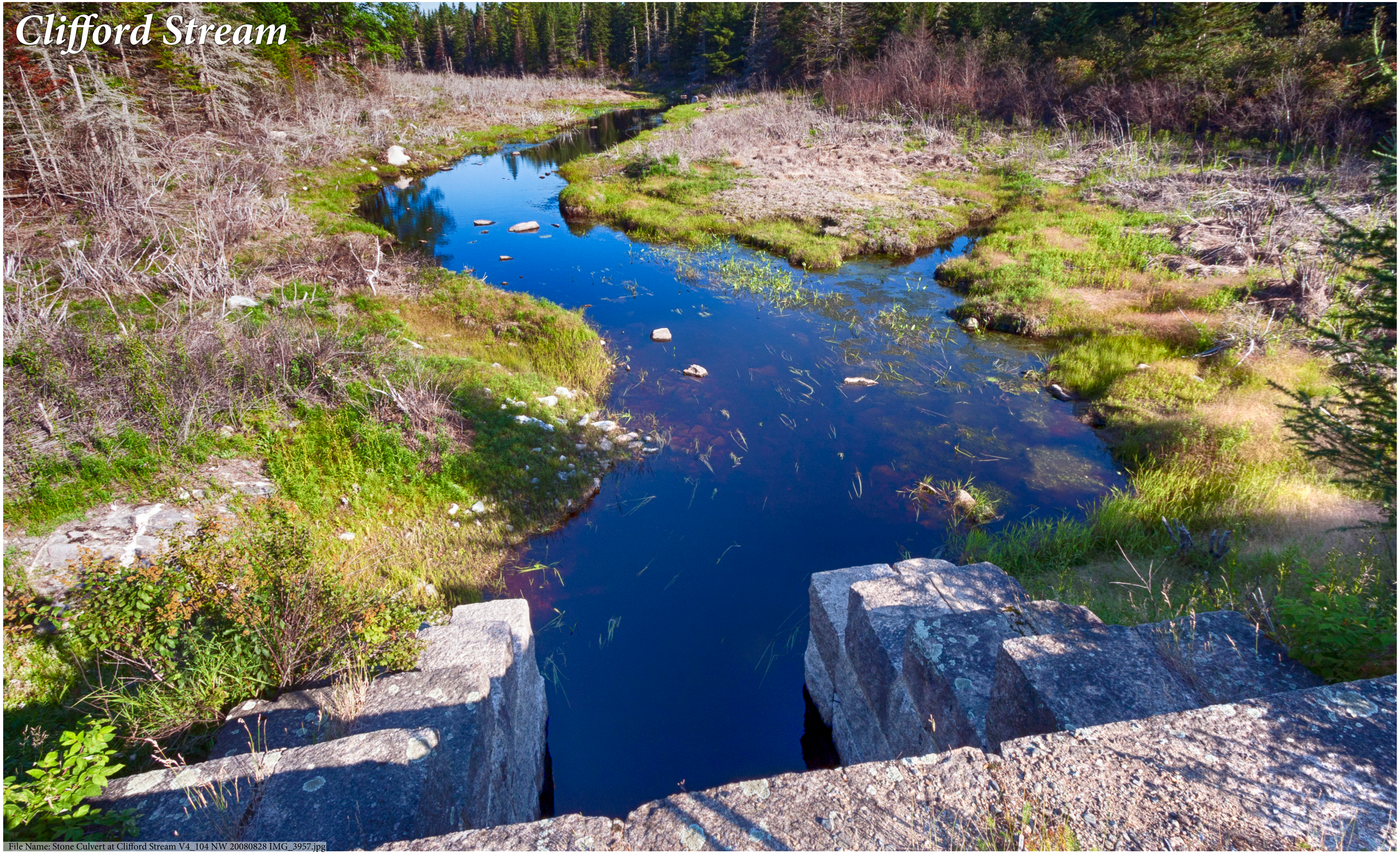
File Name: Big Meadow Brook Sta_5834 V4_110 NE 20080828 IMG_3990.jpg

Marsh north of Station 5834

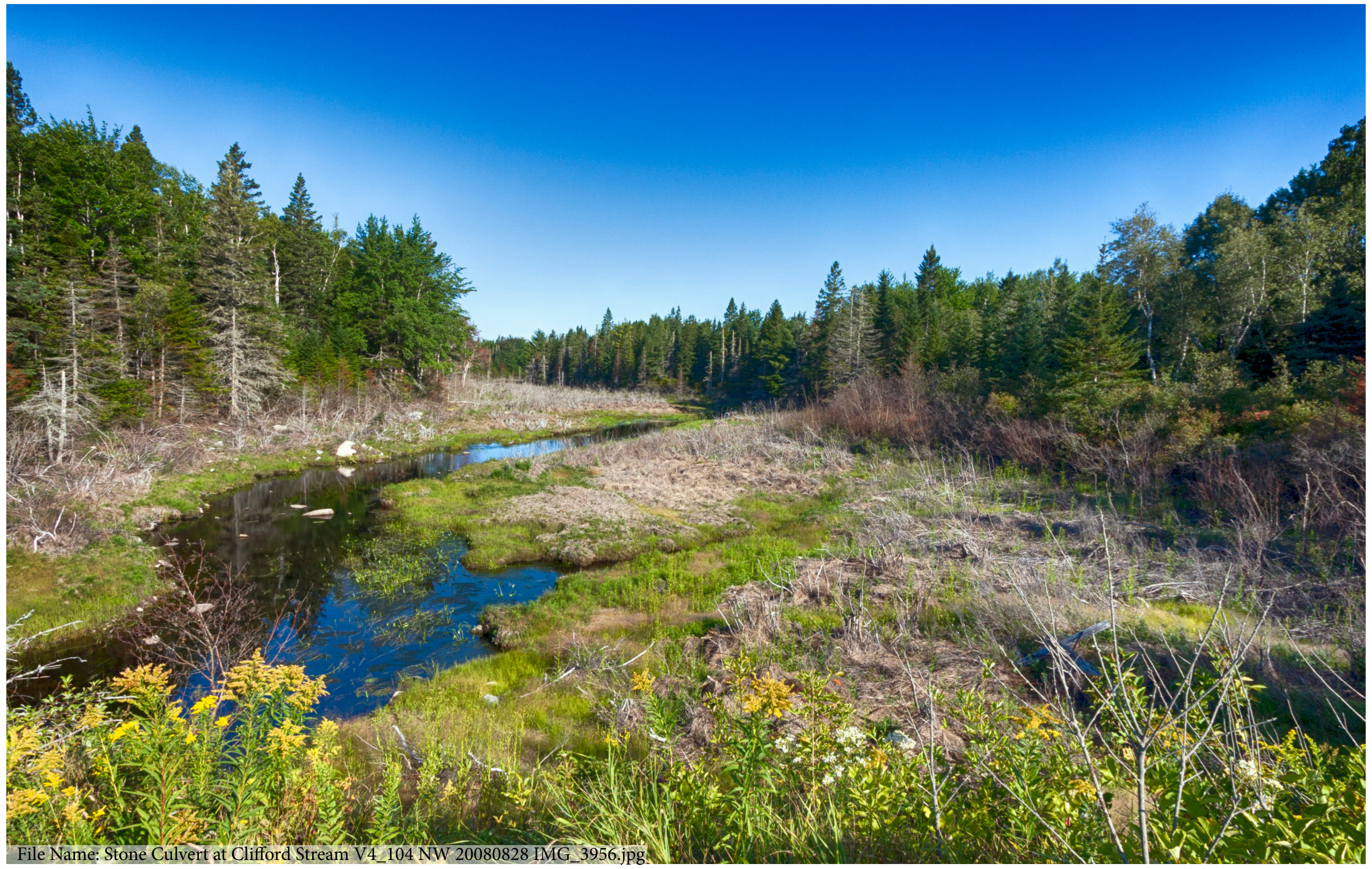


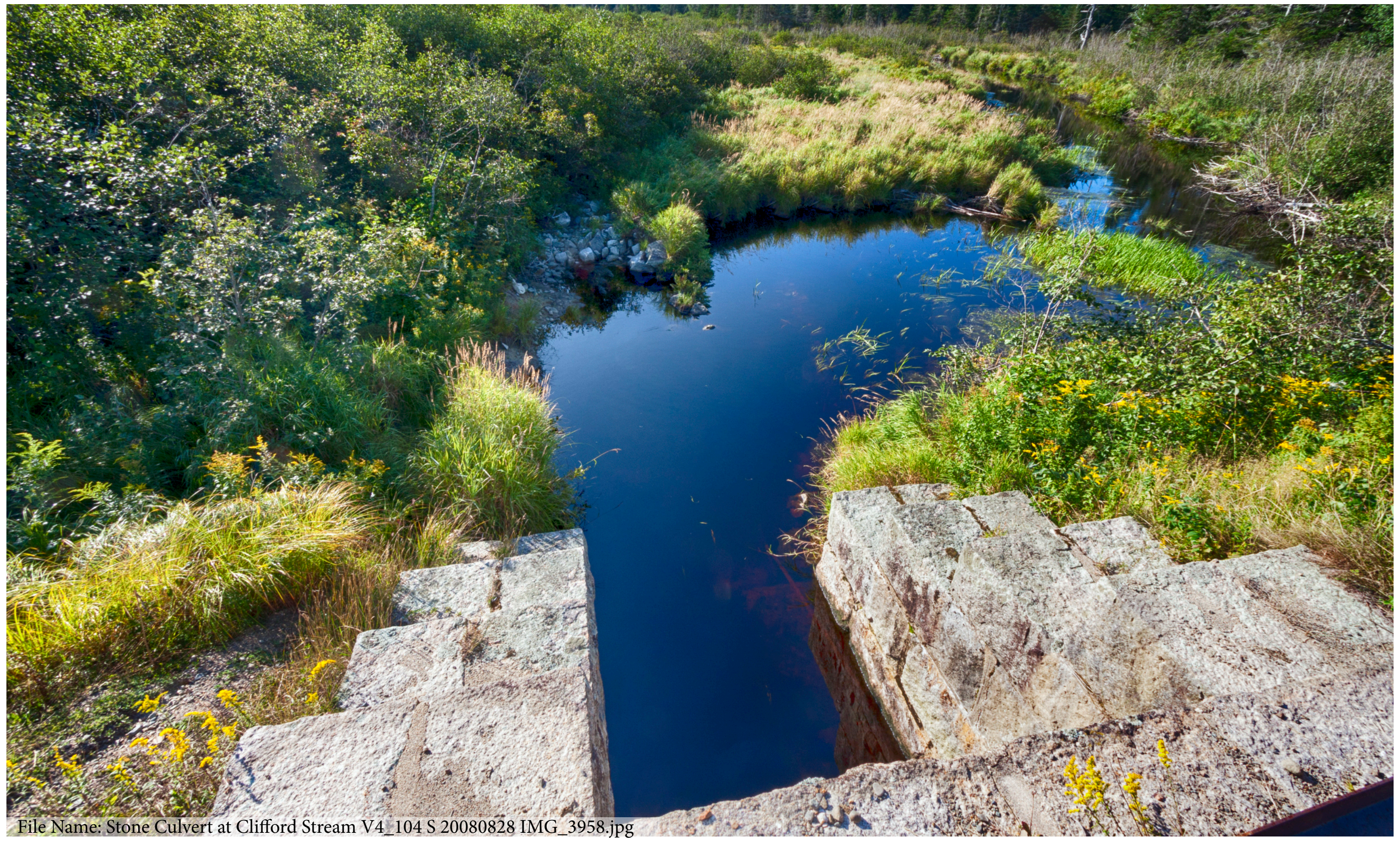
File Name: Marsh north of Sta_5834 S 20080828 IMG_3996b.jpg

Clifford Stream



File Name: Stone Culvert at Clifford Stream V4_104 NW 20080828 IMG_3957.jpg


File Name: Stone Culvert at Clifford Stream V4_104 NW 20080828 IMG_3956.jpg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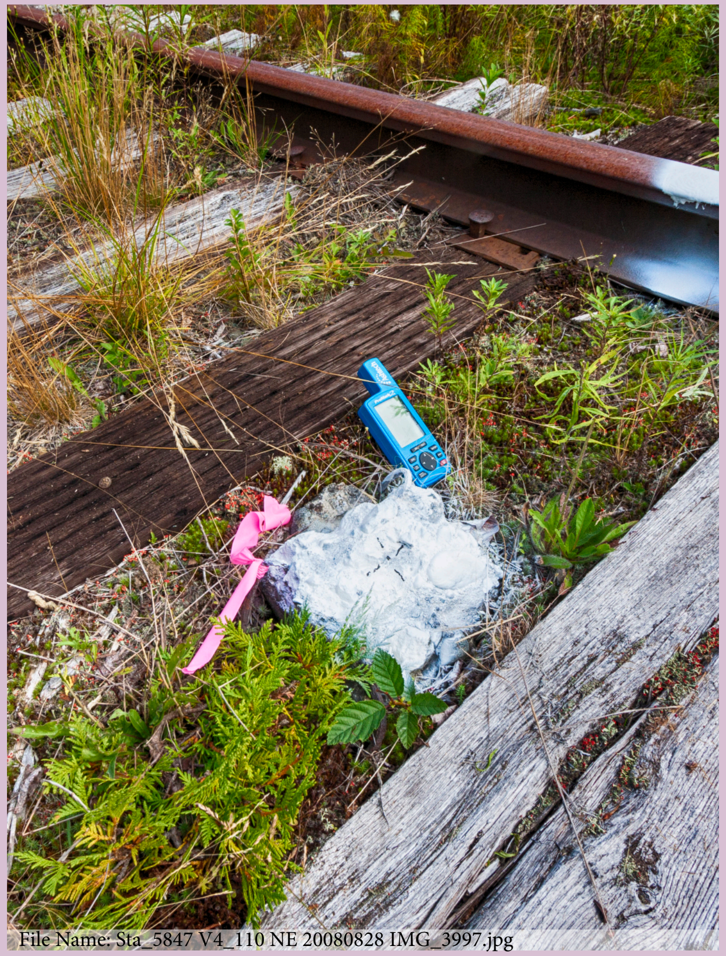
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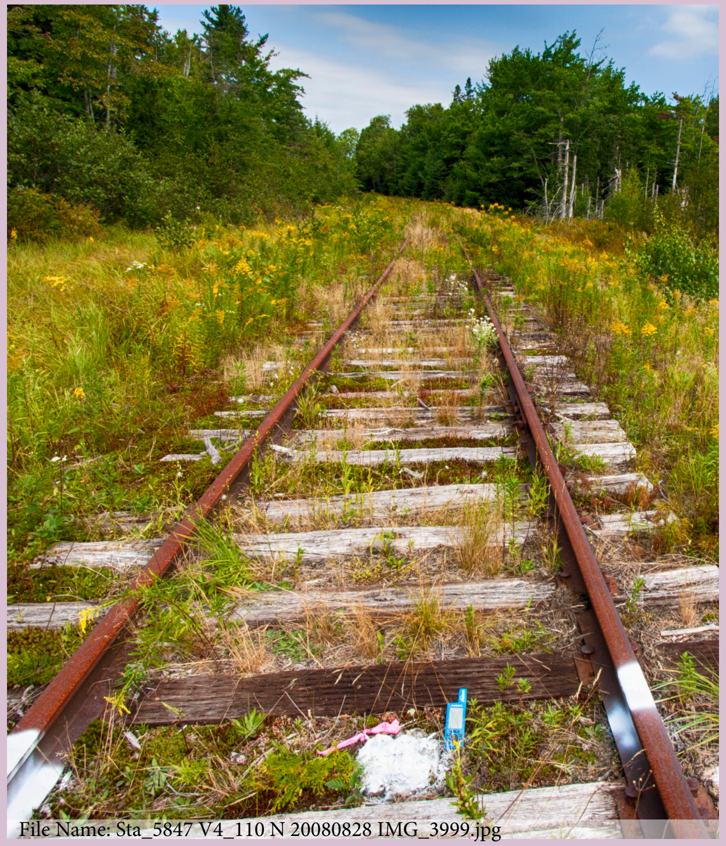
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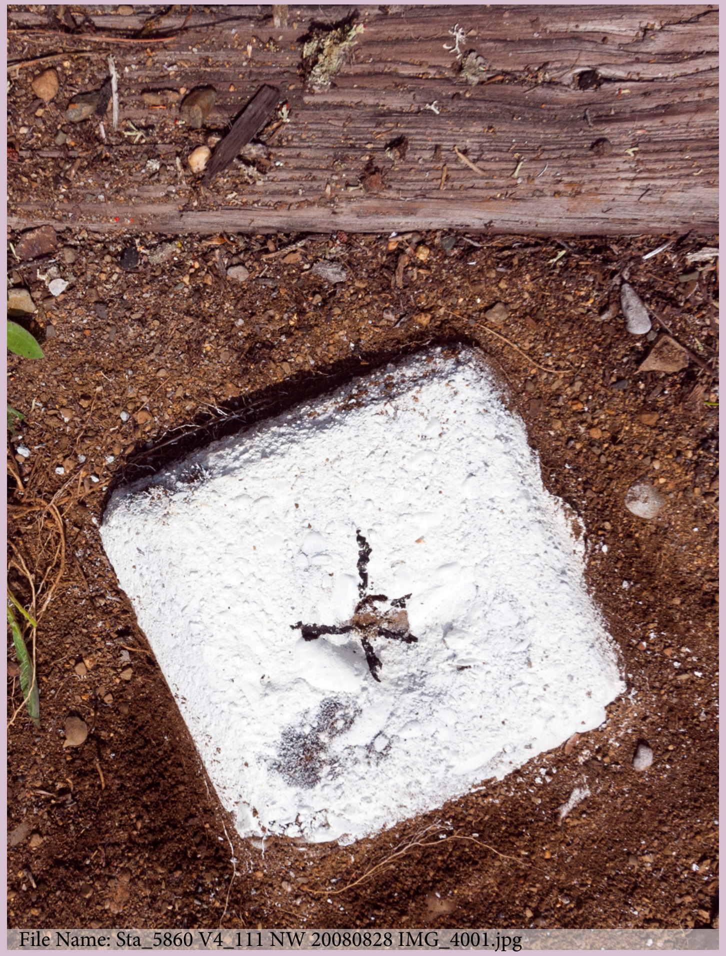
5847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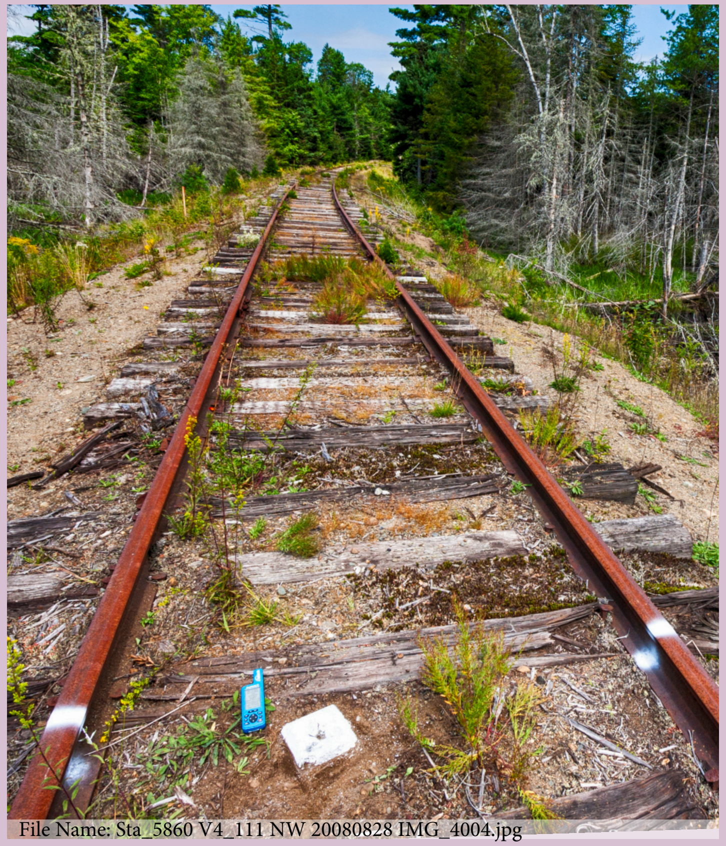
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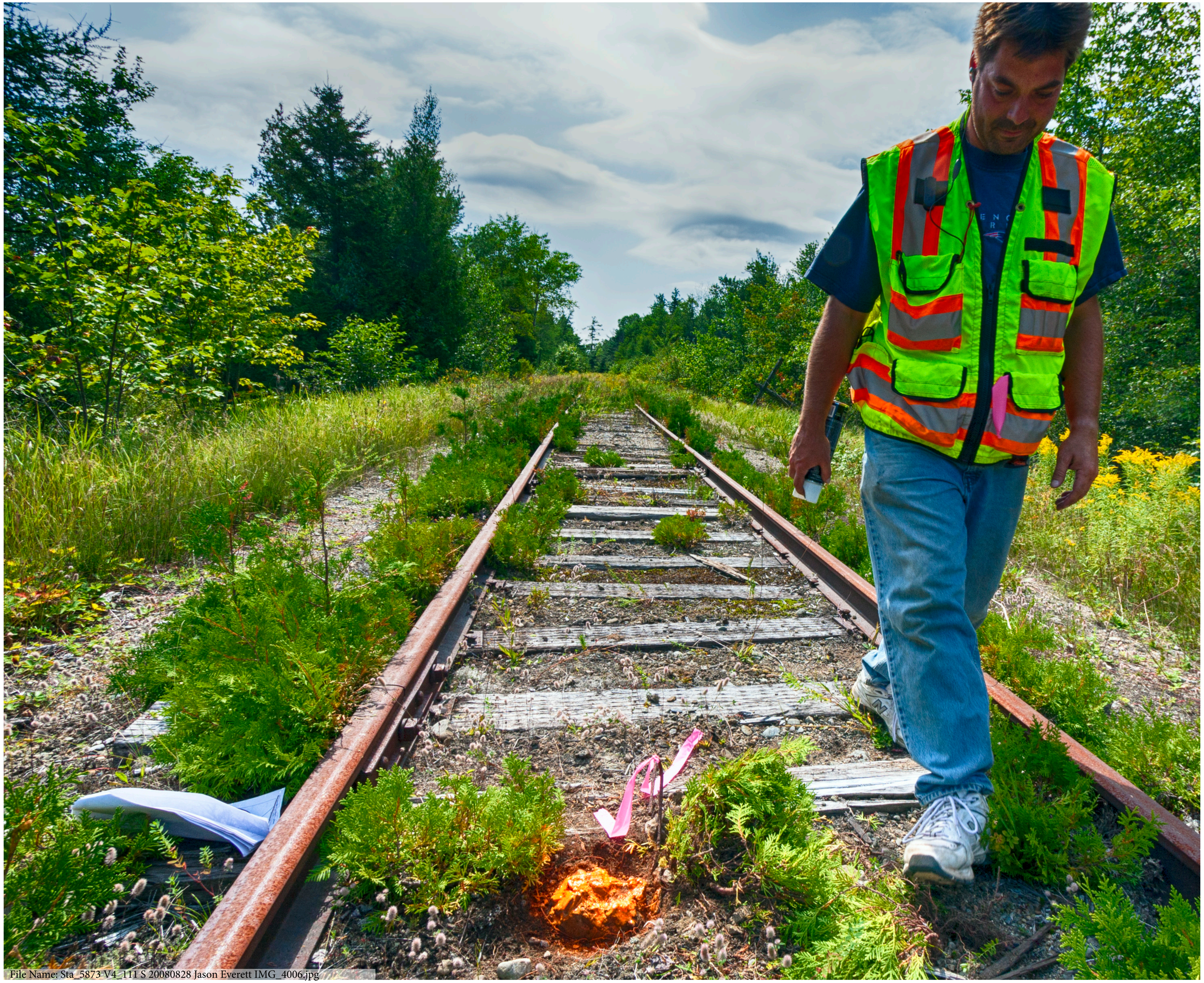
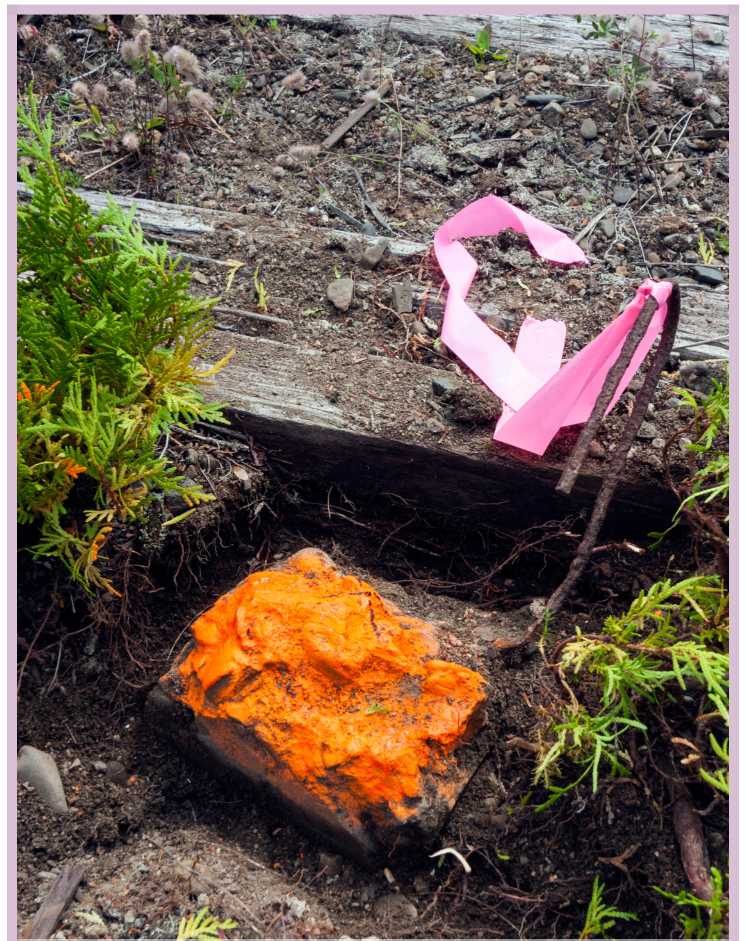
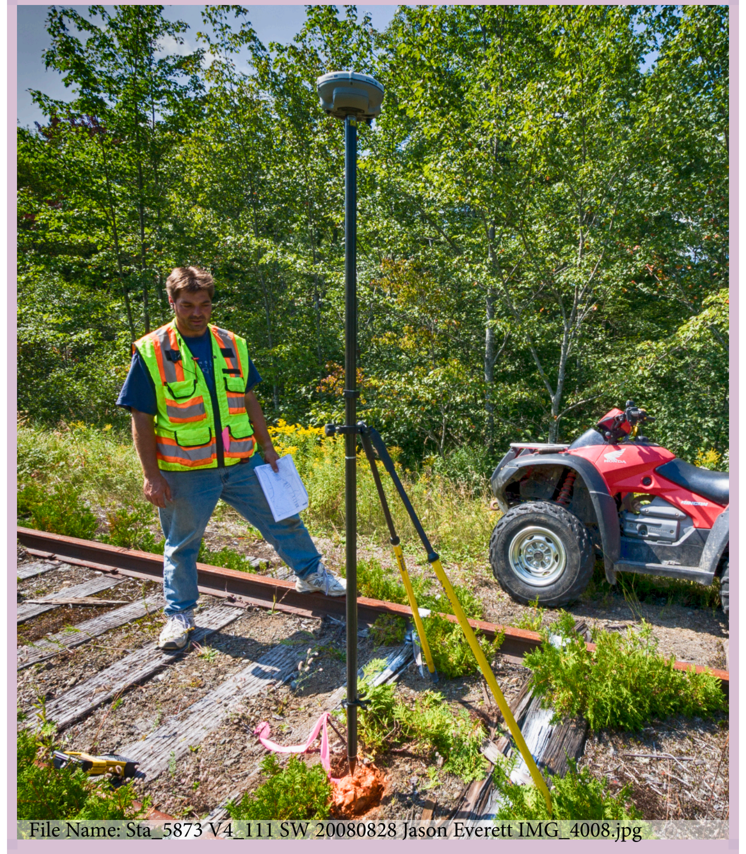
5860



File Name: Sta_5873 V4_111 S 20080828 Jason Everett IMG_4006.jpg

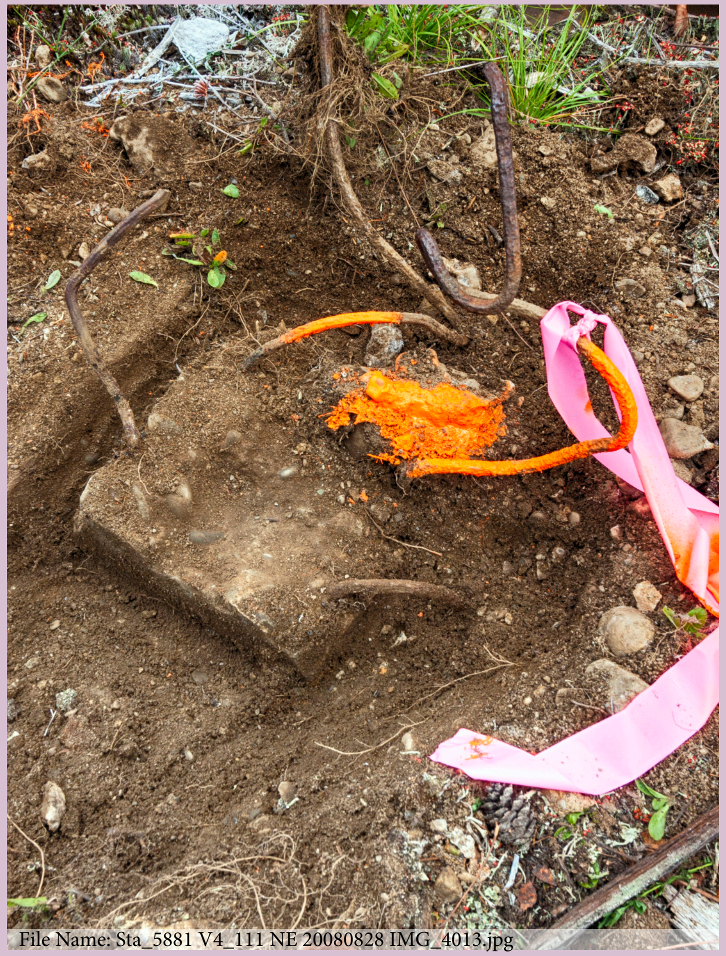


File Name: Sta_5873 V4_111 S 20080828 IMG_4025.jpg



File Name: Sta_5873 V4_111 SW 20080828 Jason Everett IMG_4008.jpg

5873



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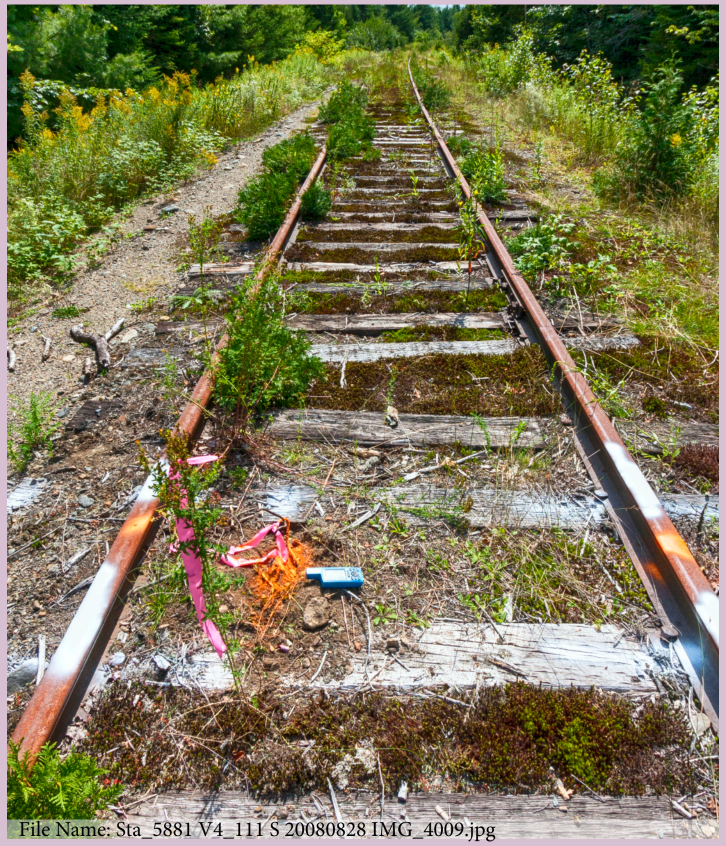
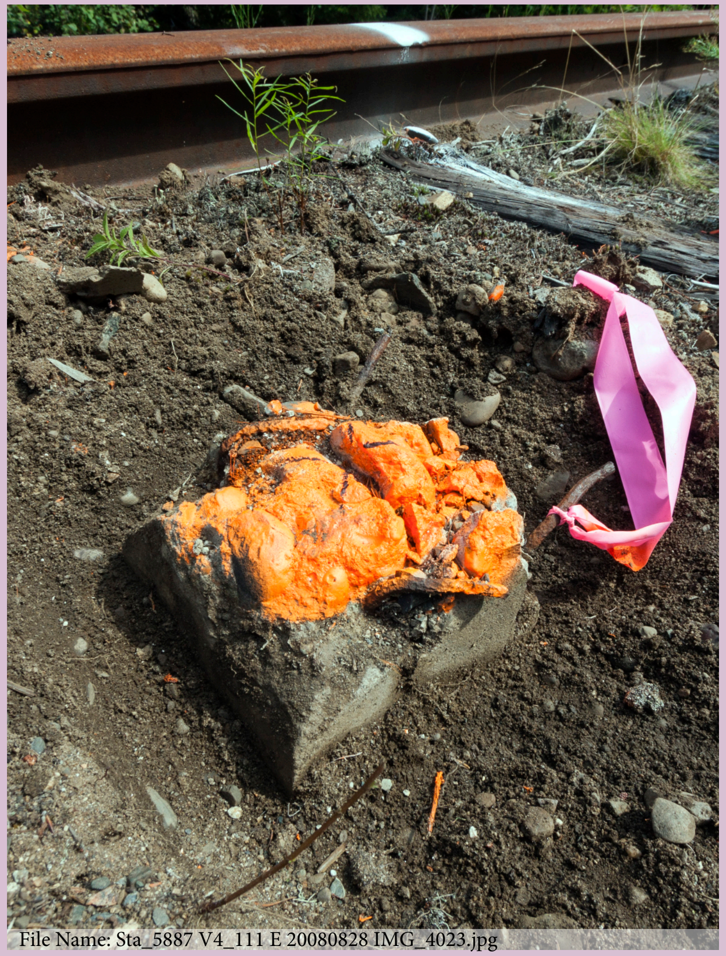


File Name: Sta_5881 V4_111 S 20080828 IMG_4009.jpg

5881



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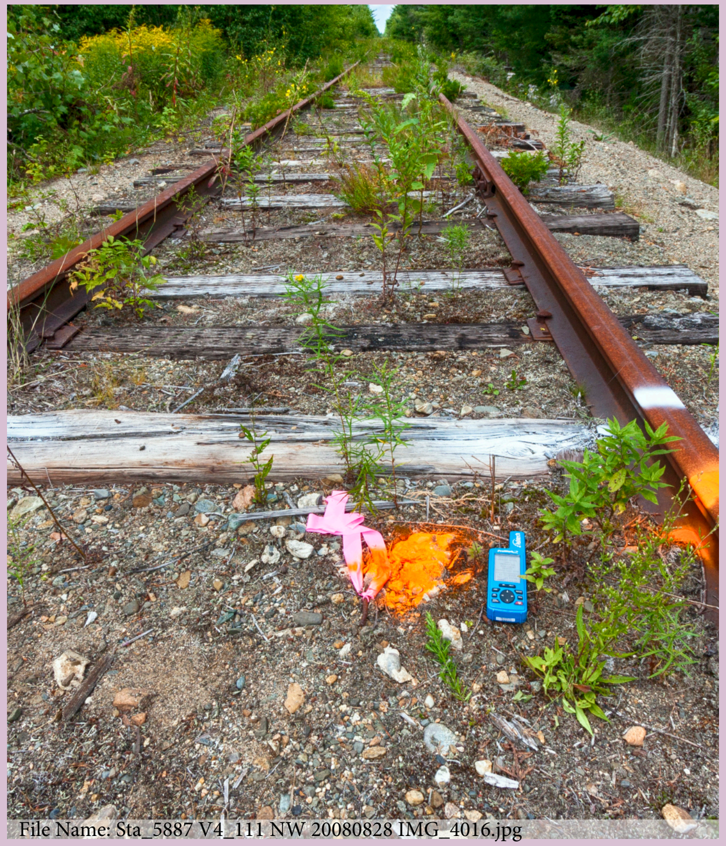

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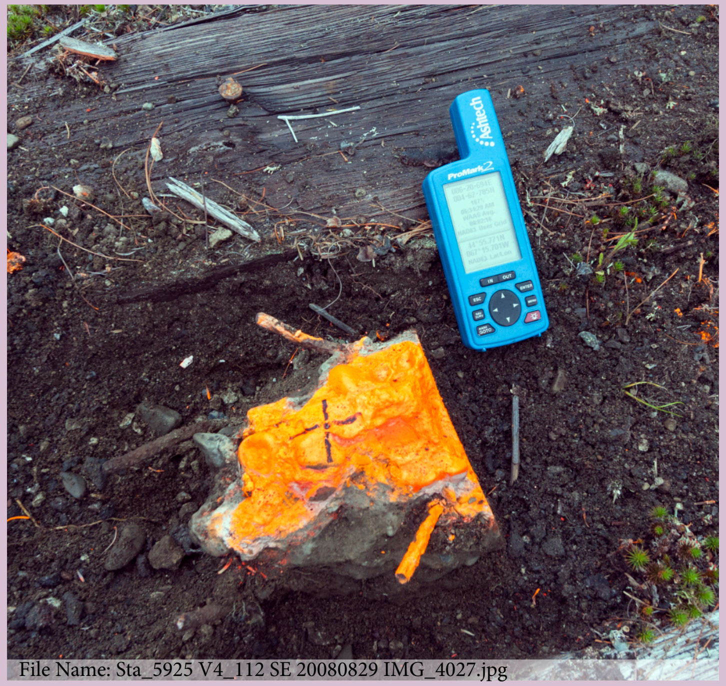

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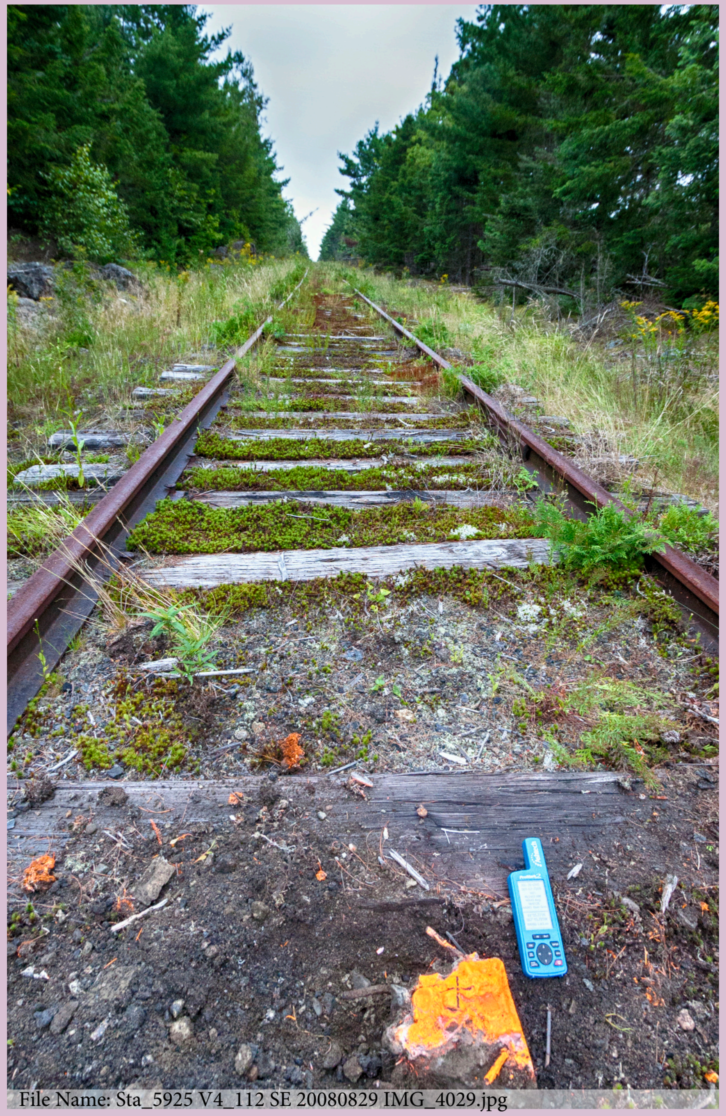

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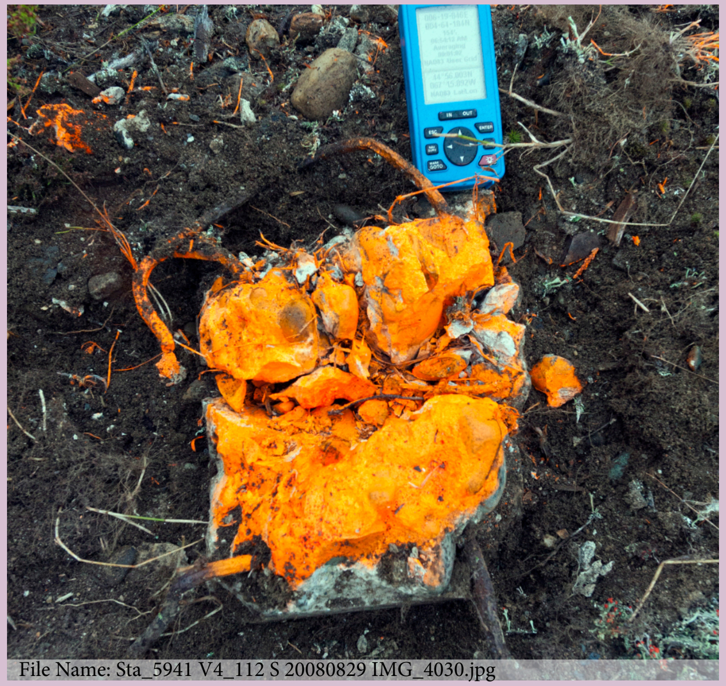

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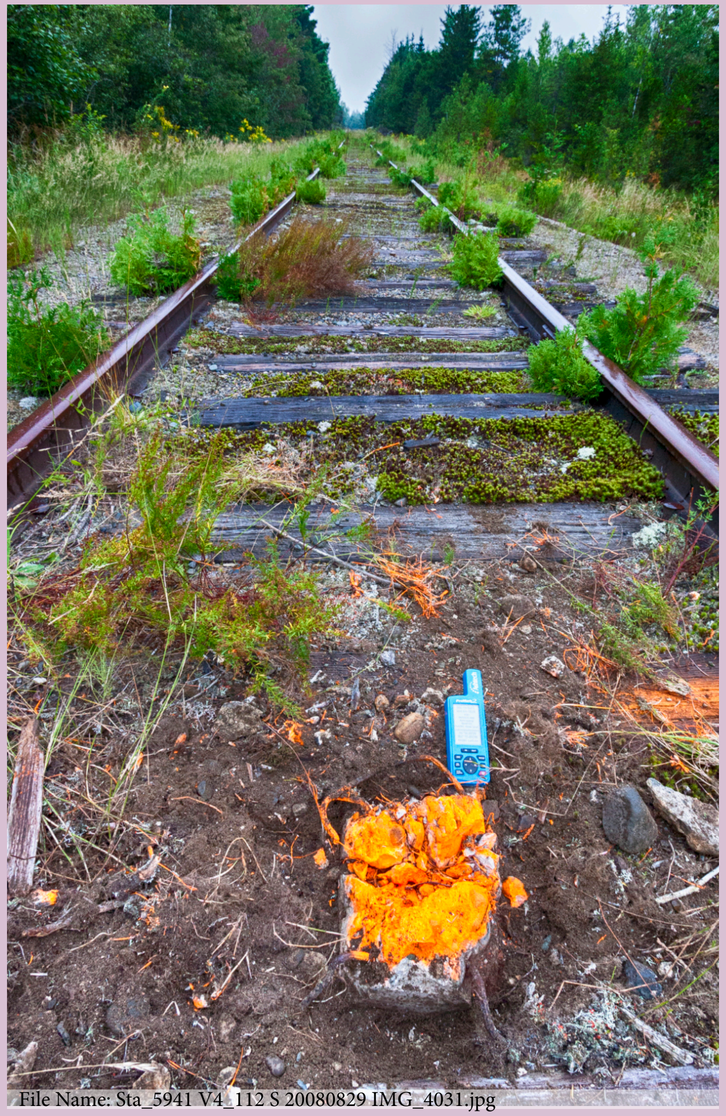

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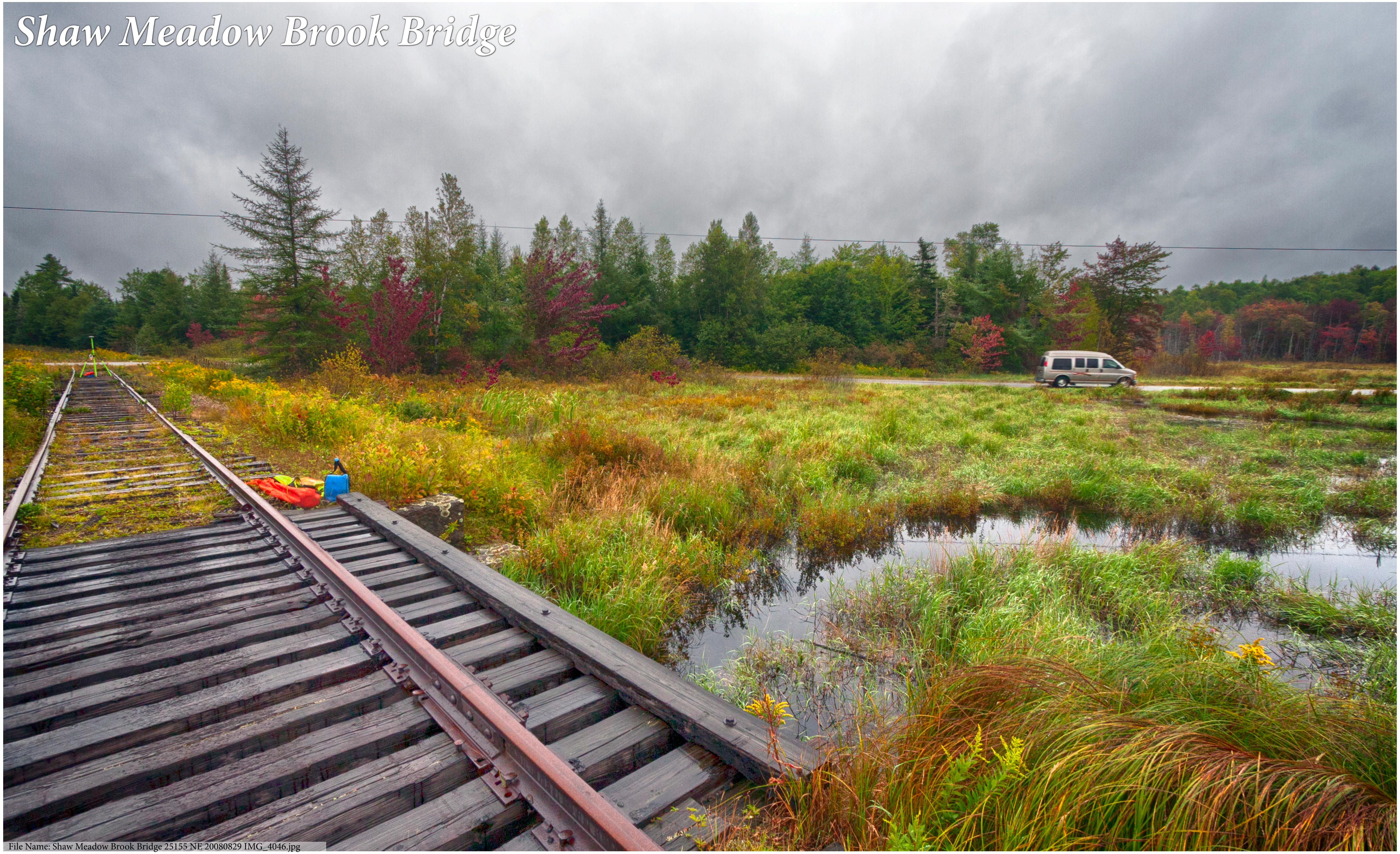
5941

Shaw Meadow Brook Bridge



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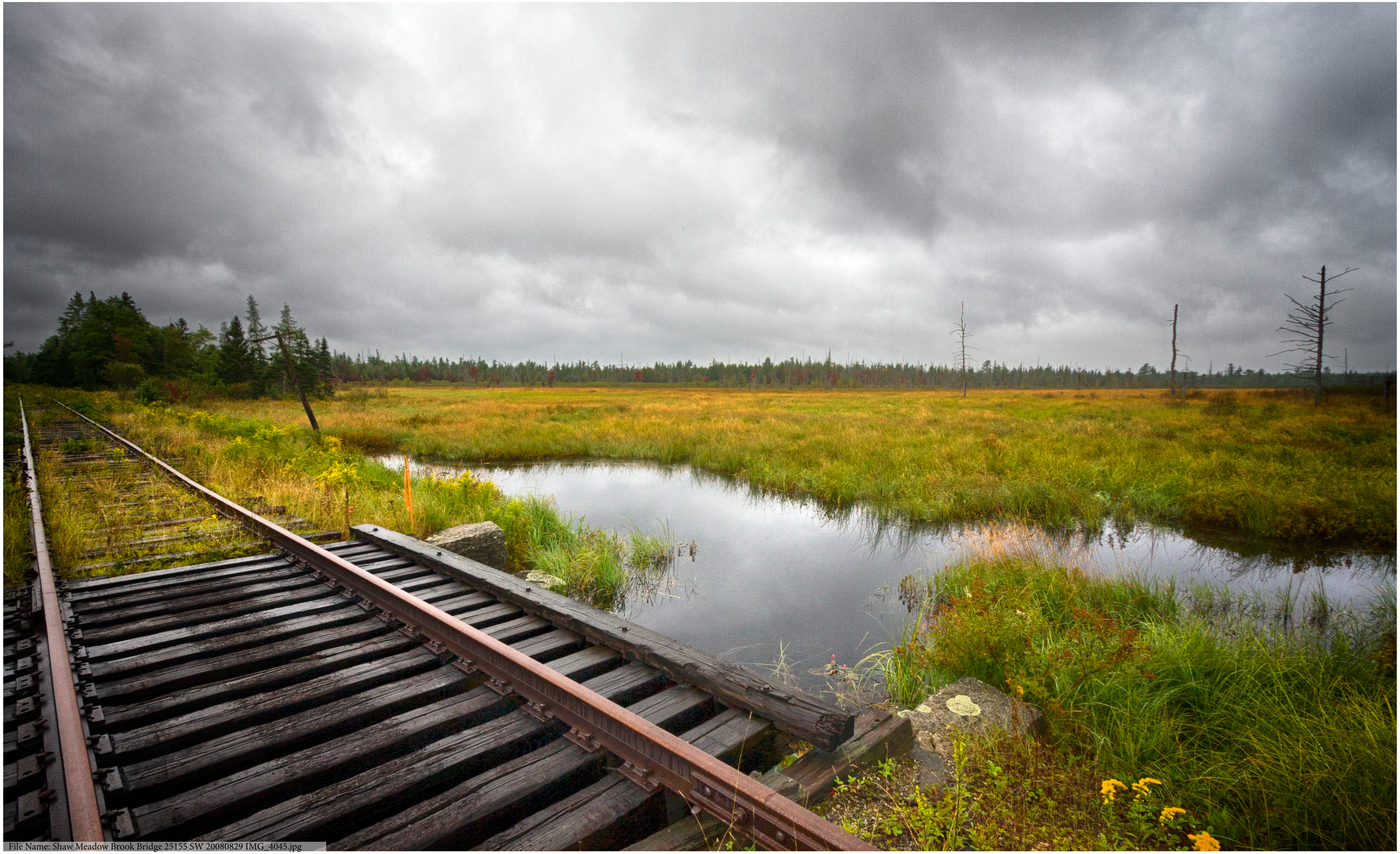

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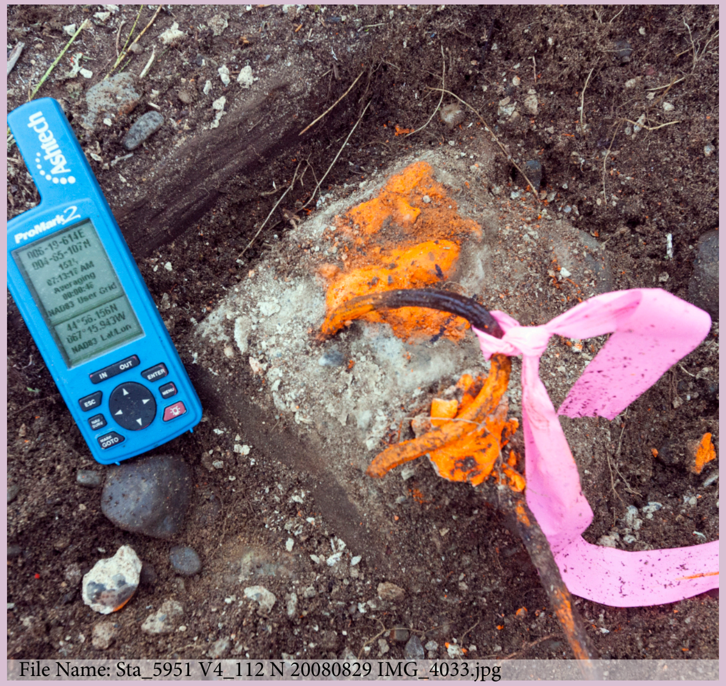

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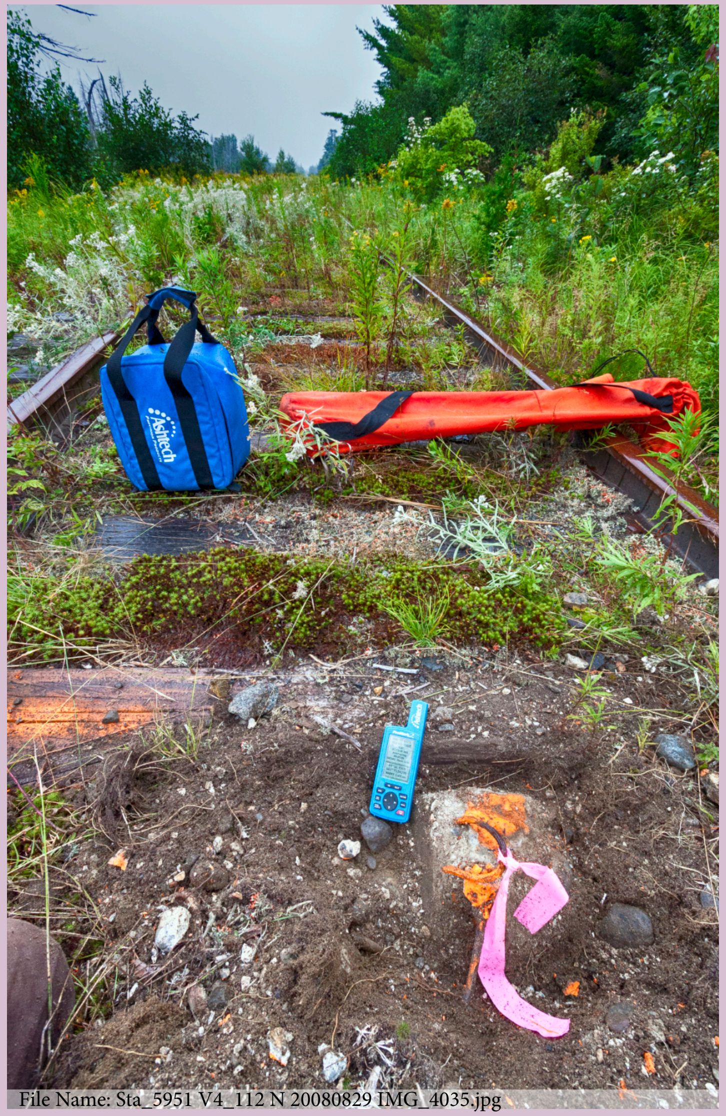

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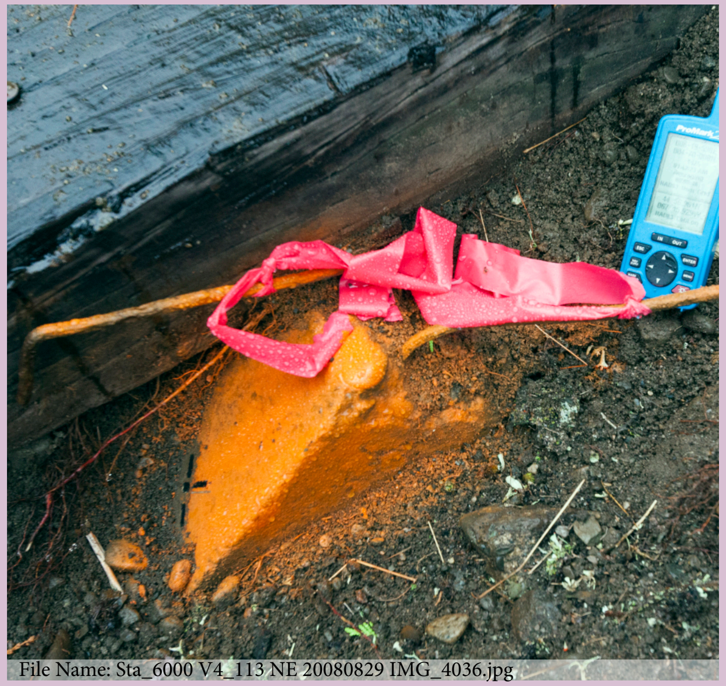

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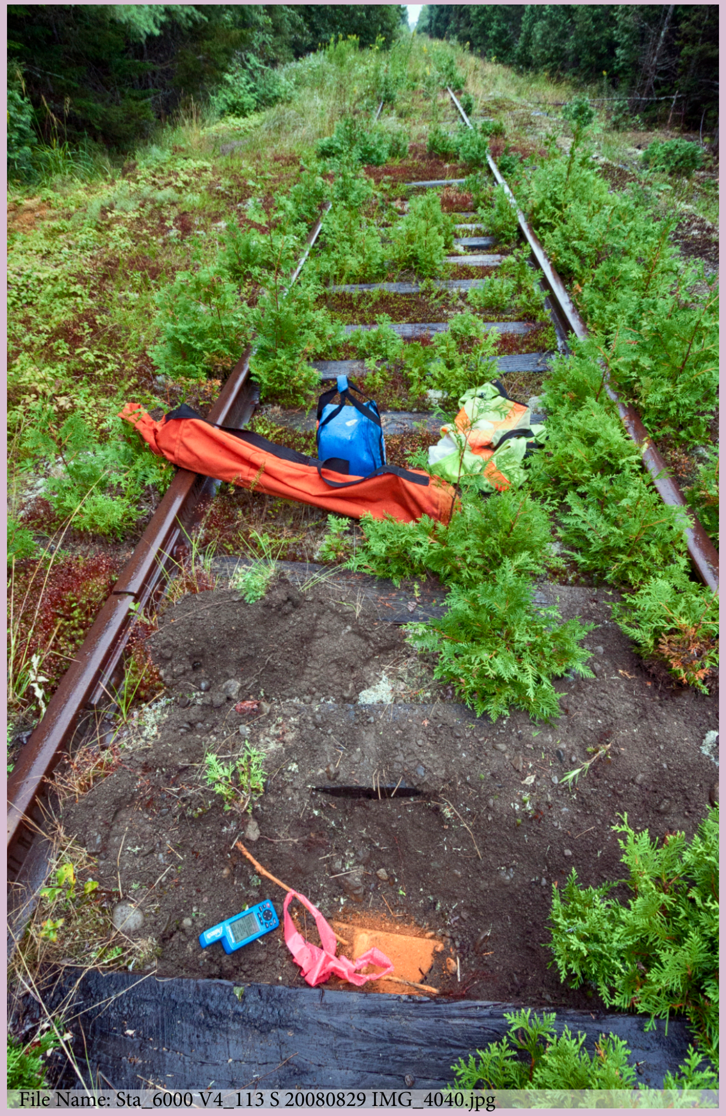

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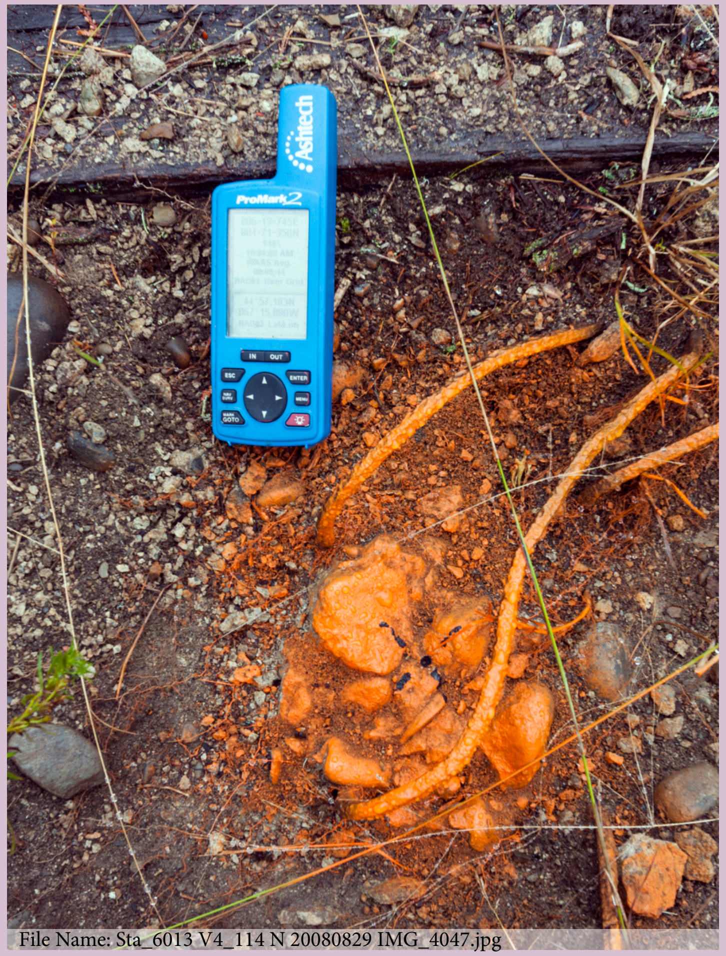

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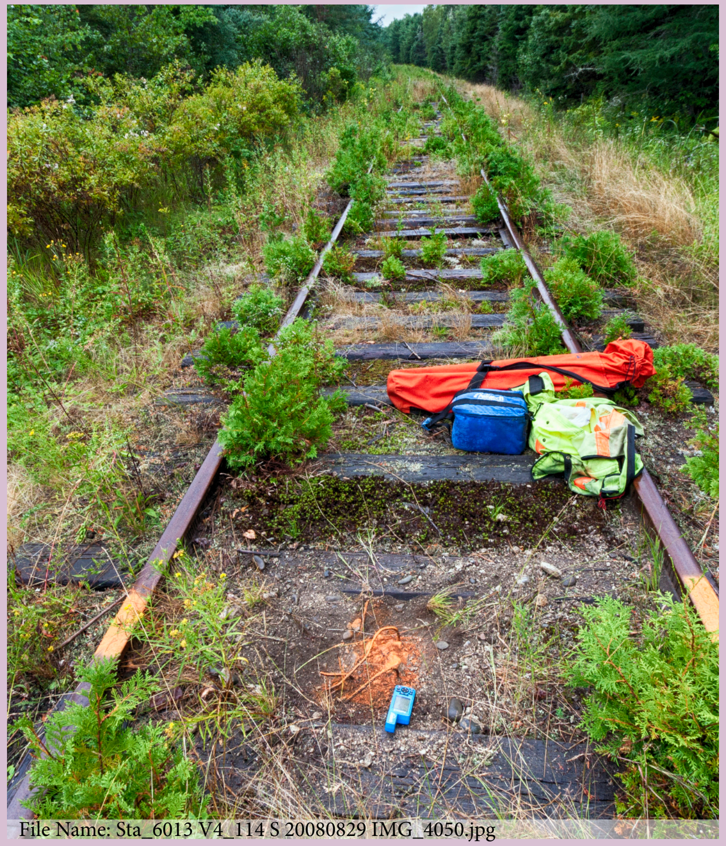

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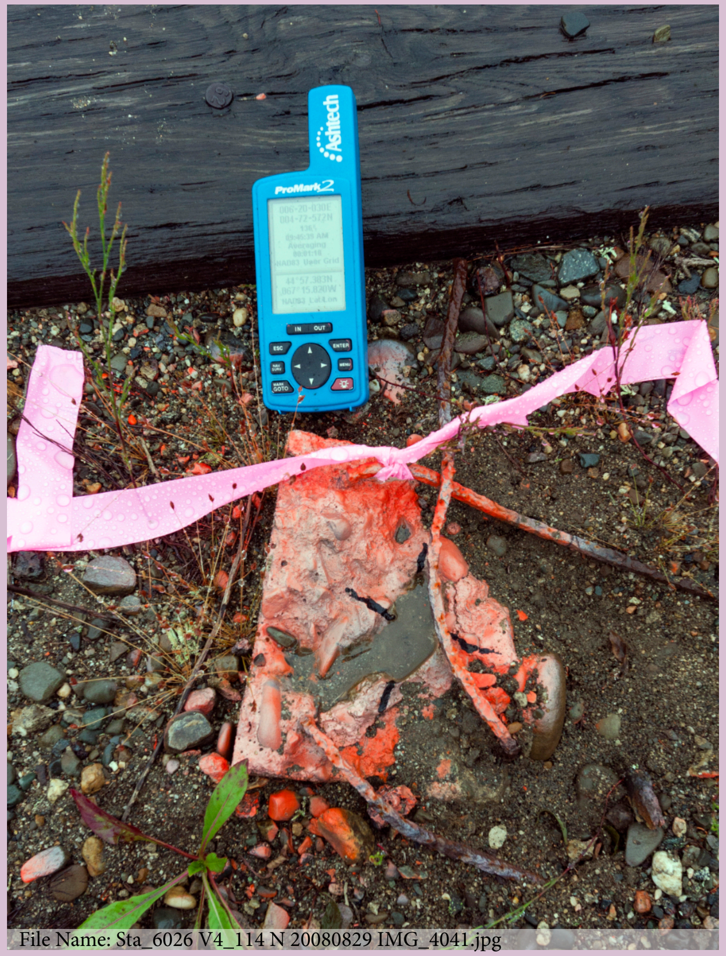

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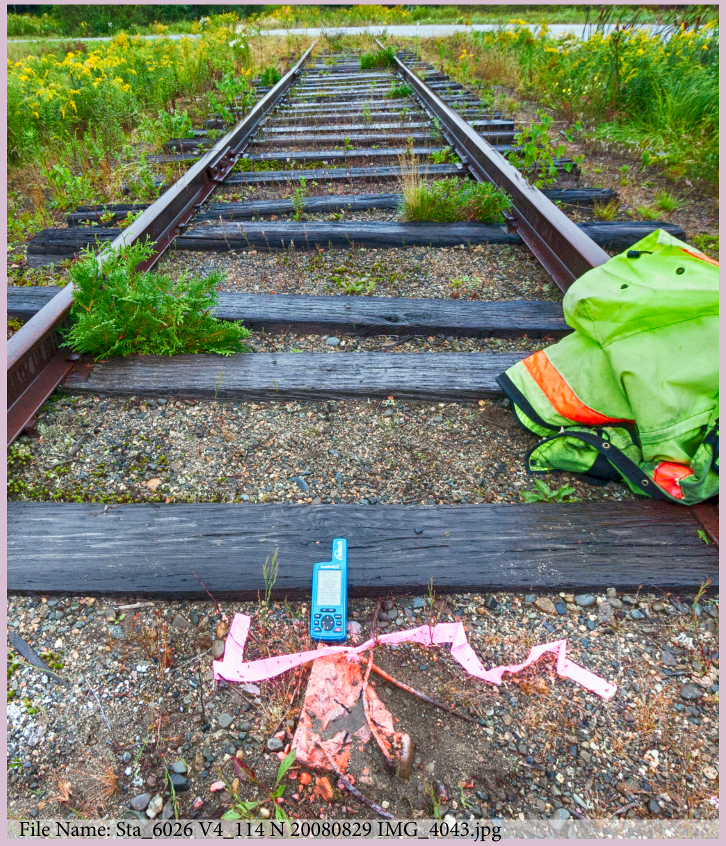

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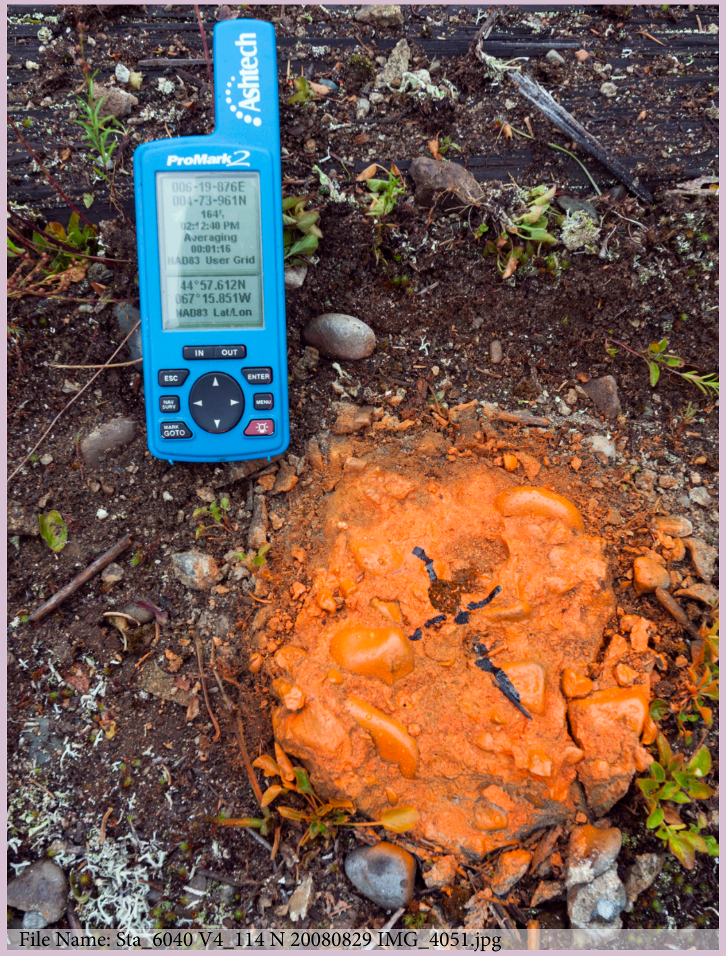
Ashtech
ProMark2

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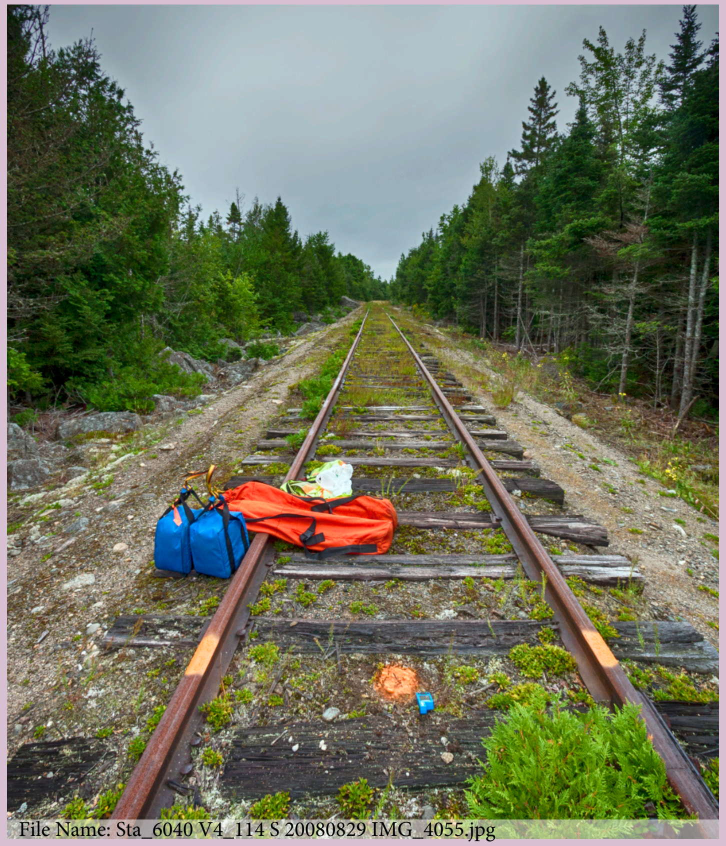

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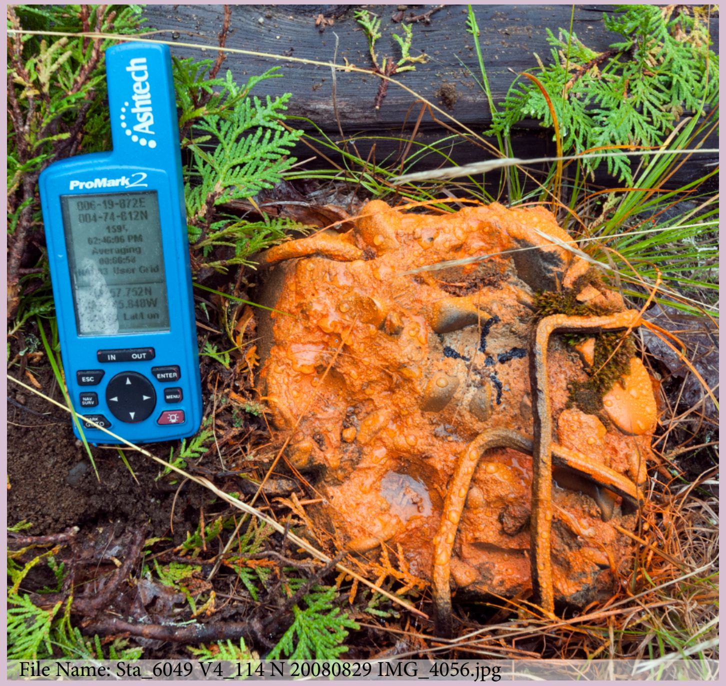
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ProMark2

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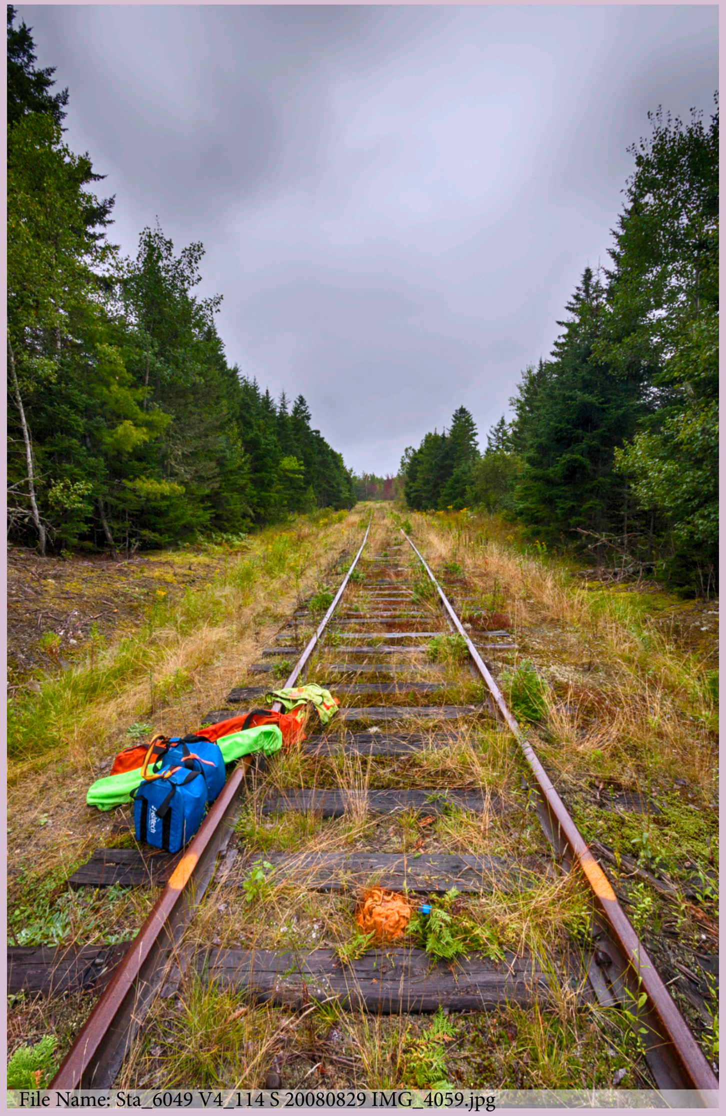

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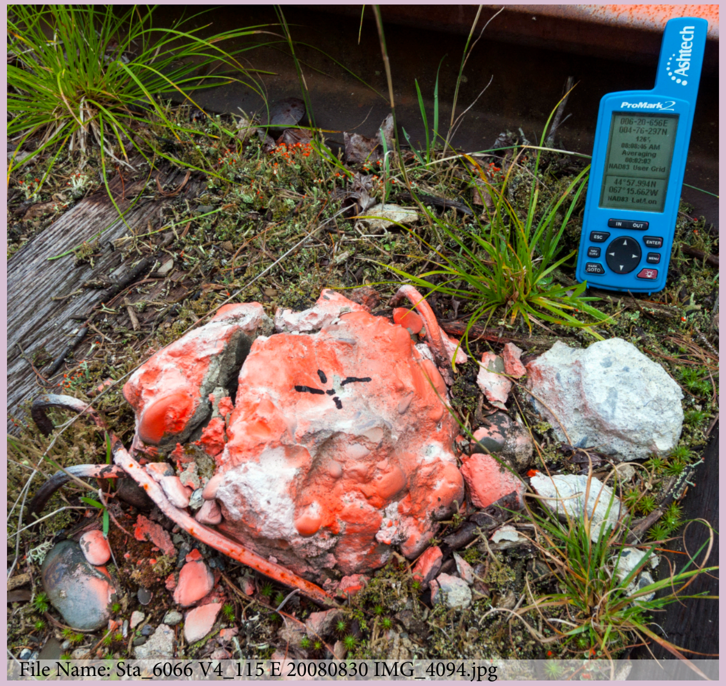
Ashtech
ProMark2

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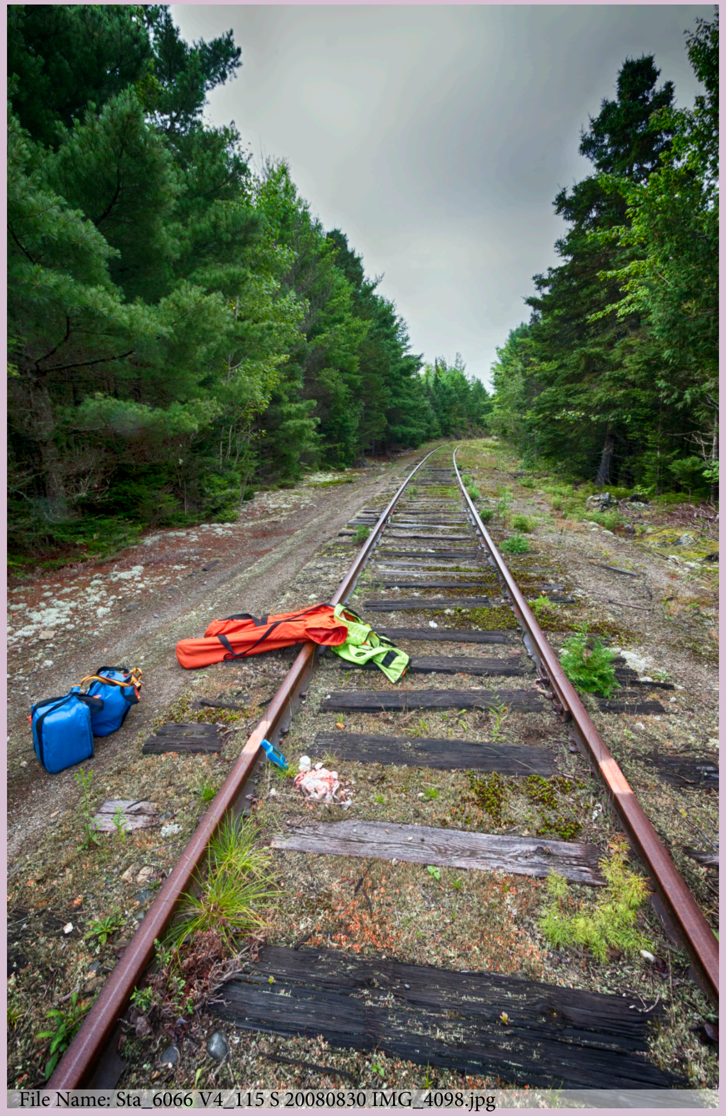

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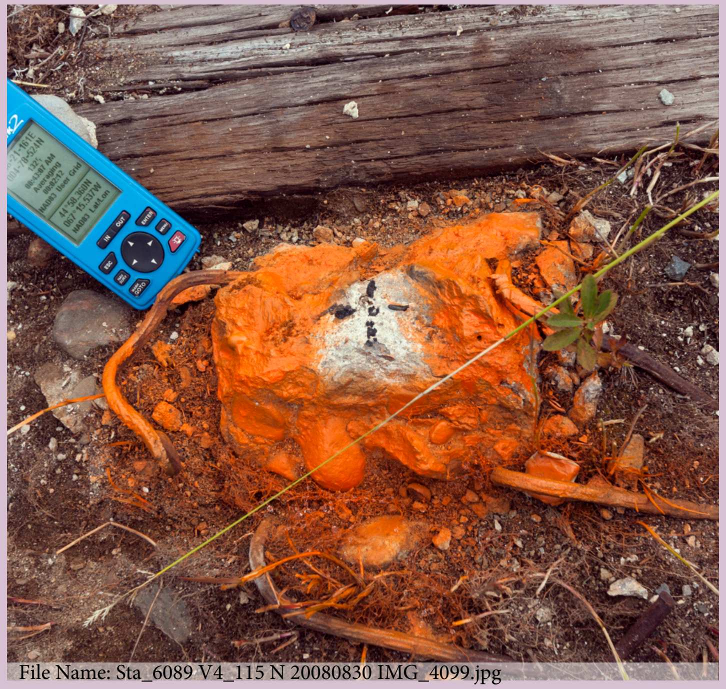
6066



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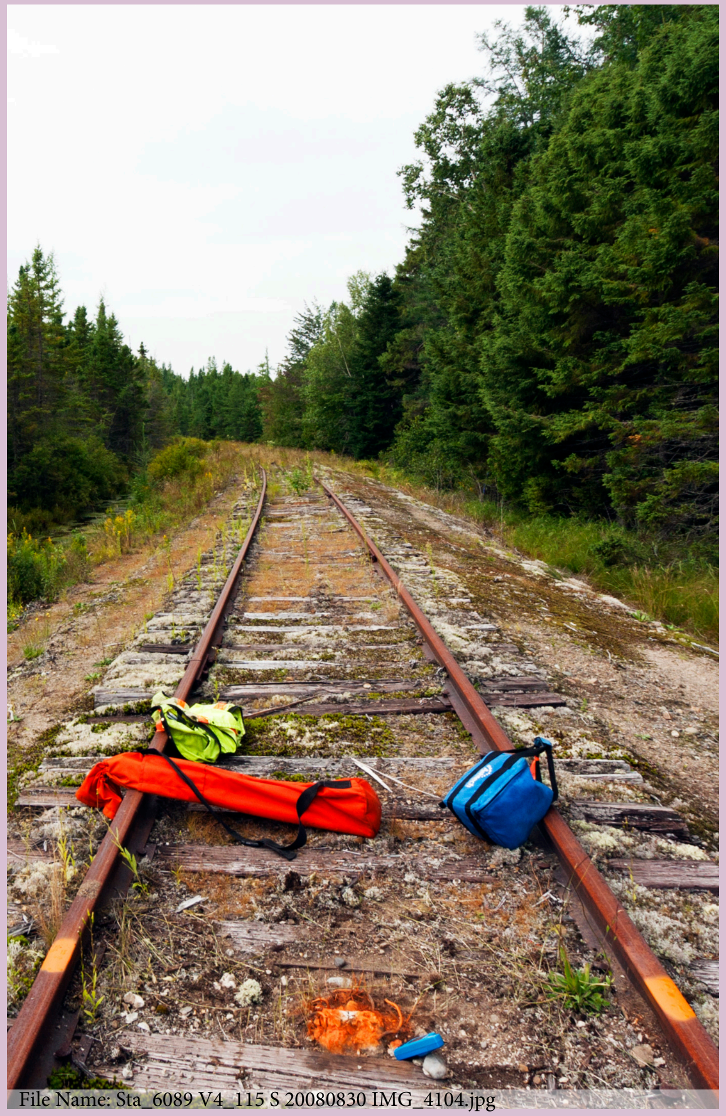

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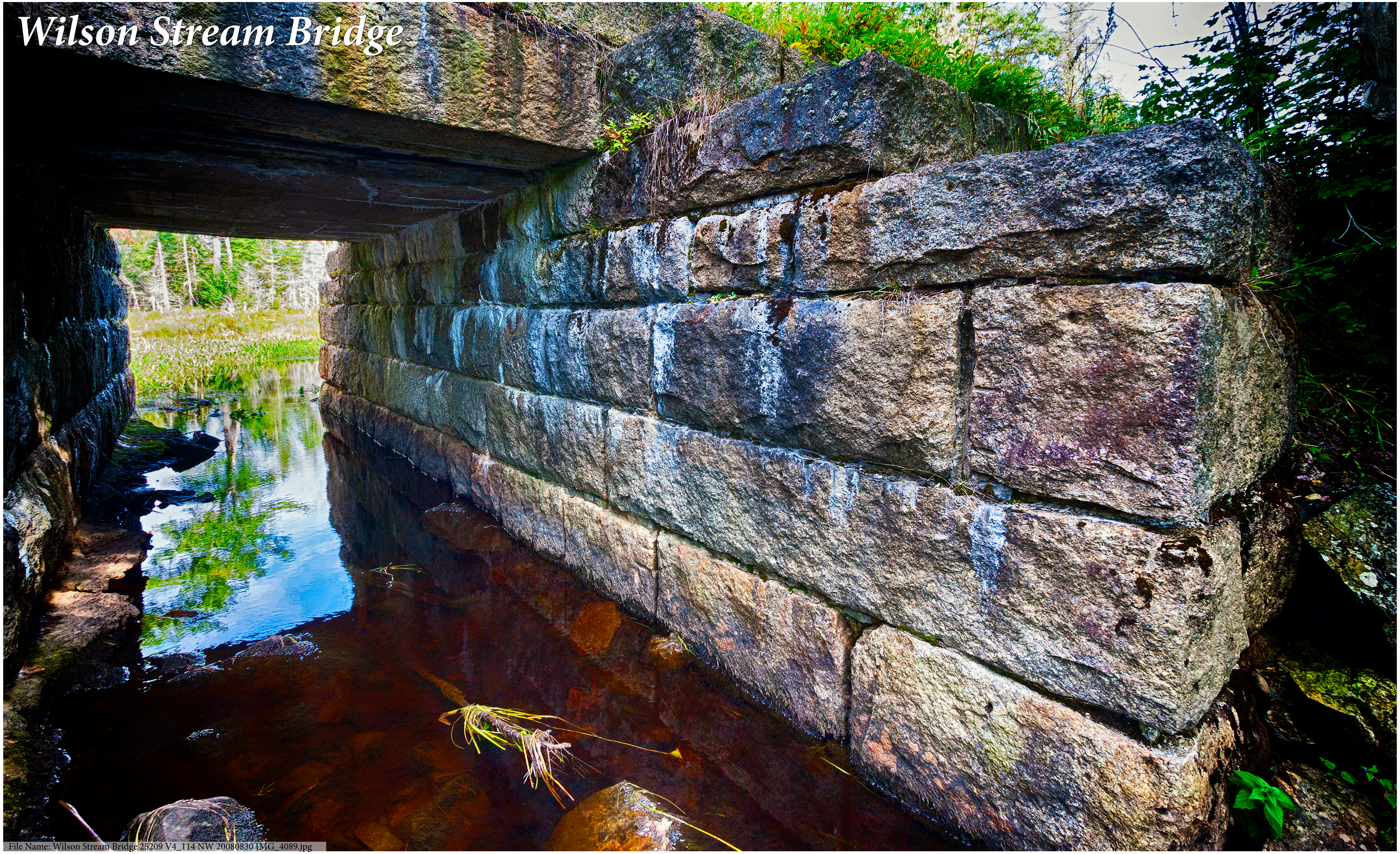
6089

Wilson Stream Bridge



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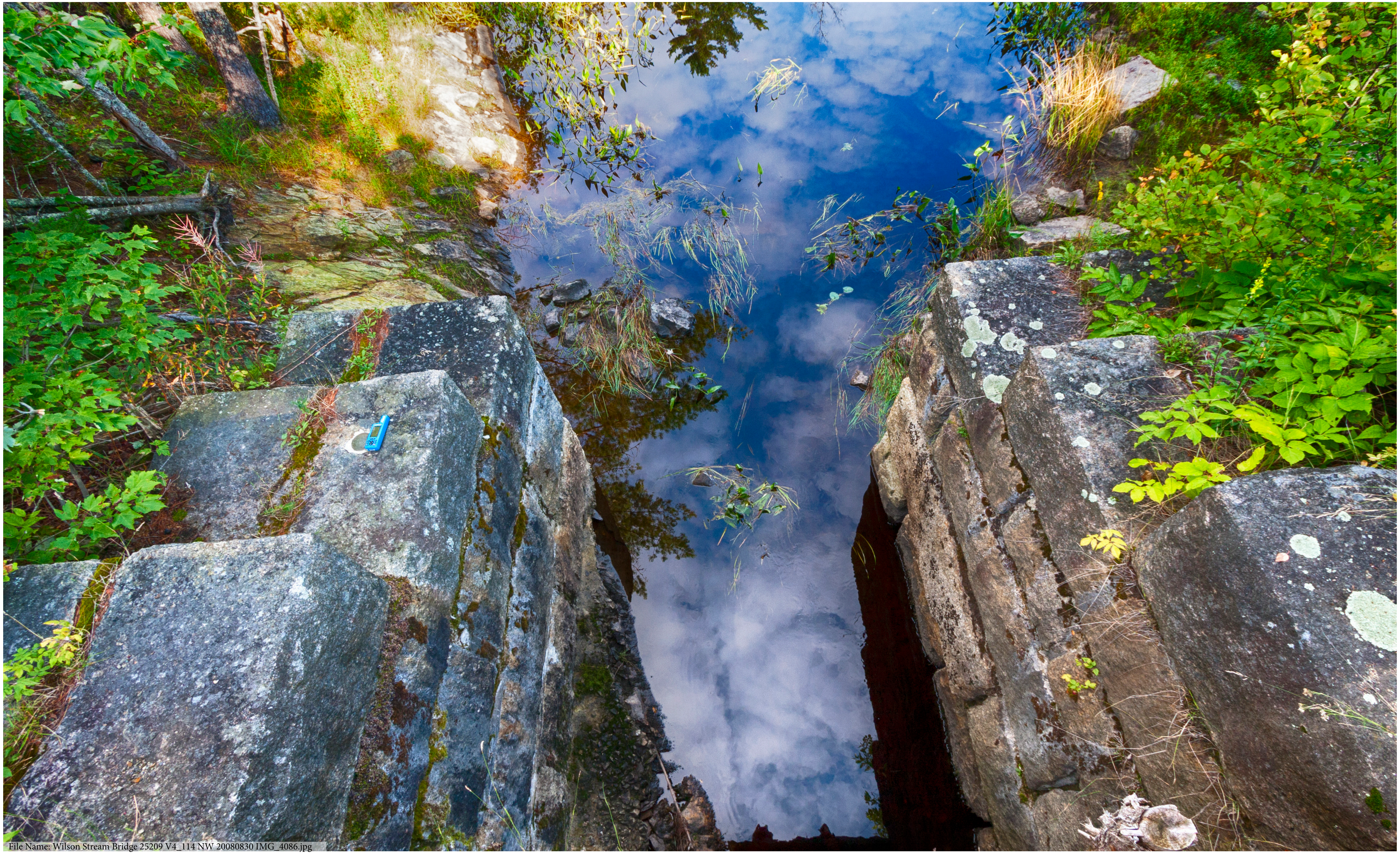

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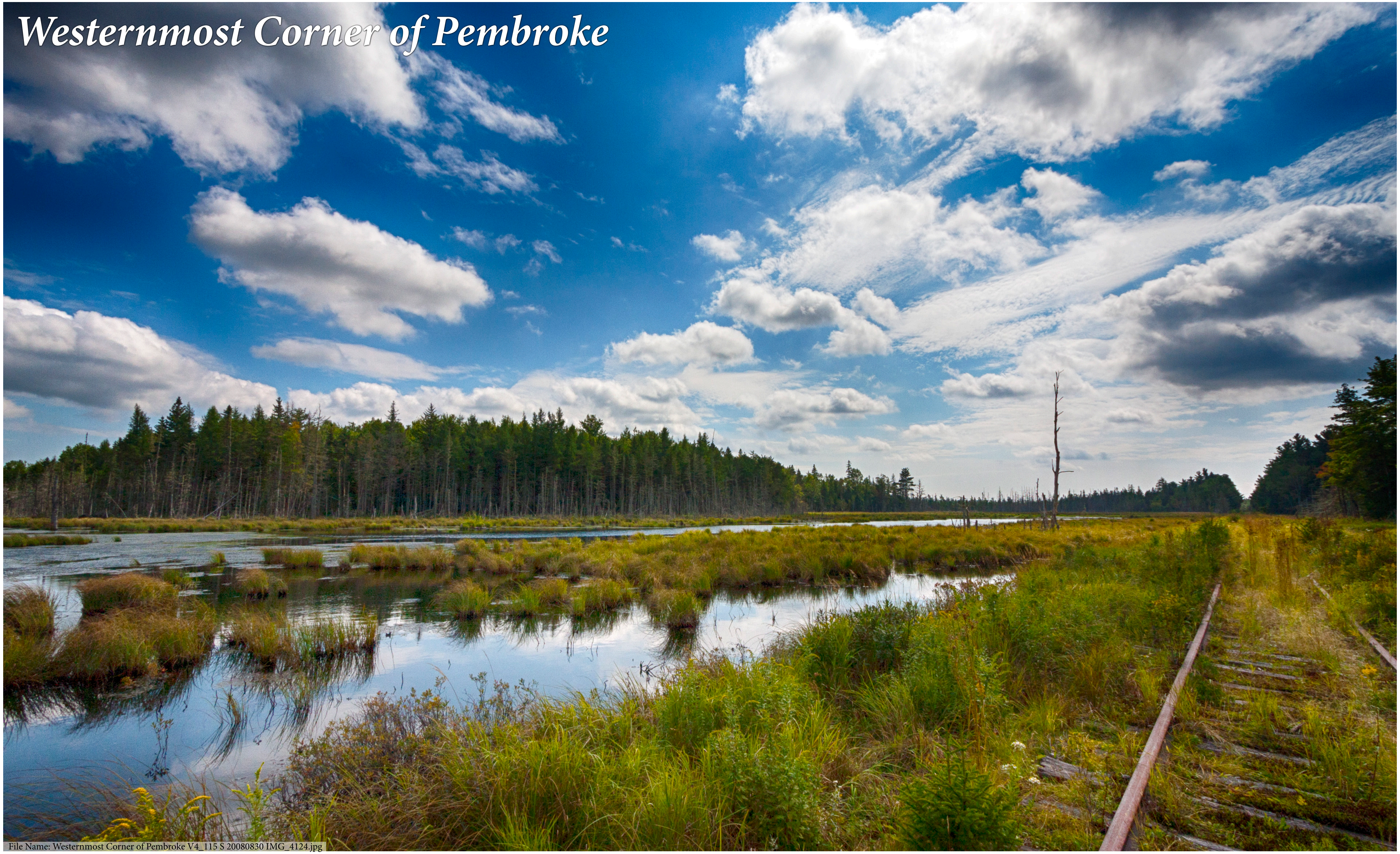
Westernmost Corner of Pembroke



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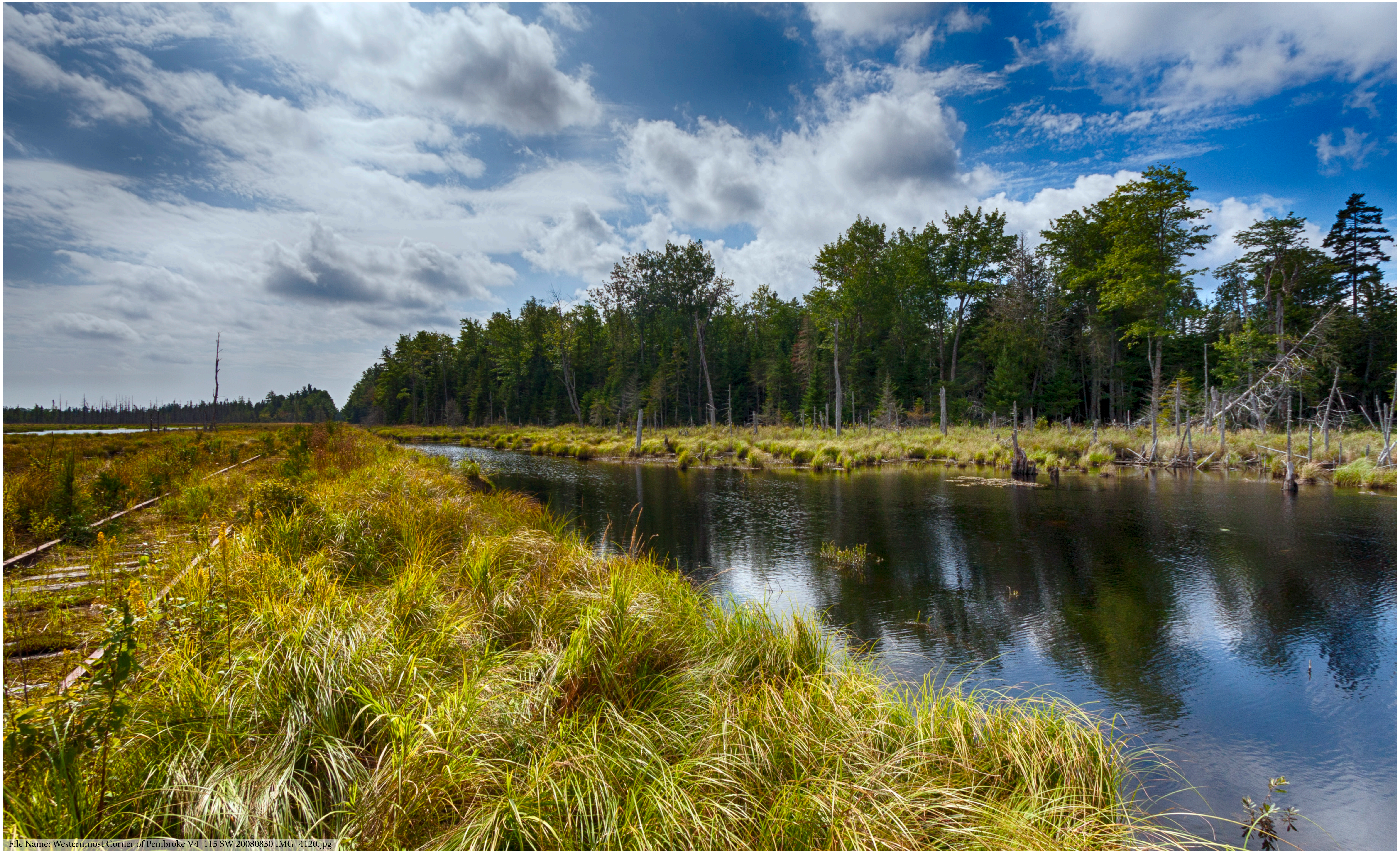

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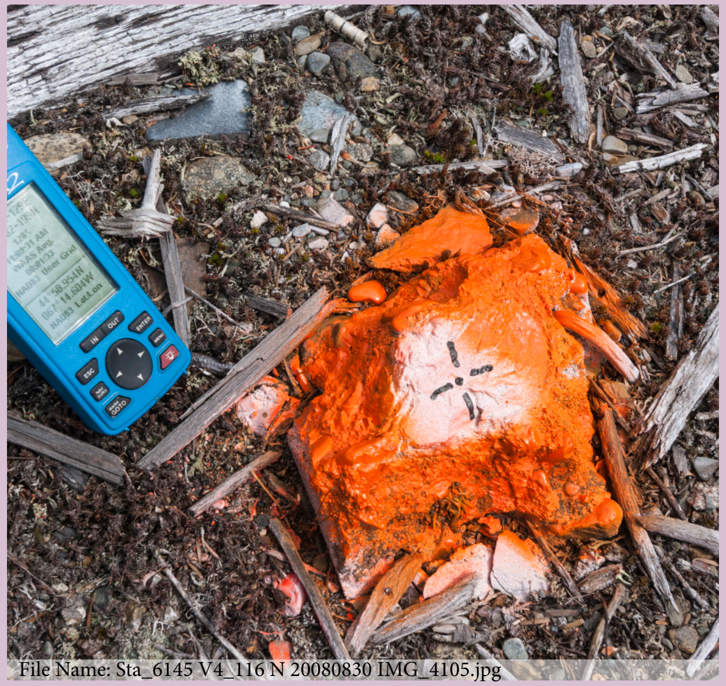

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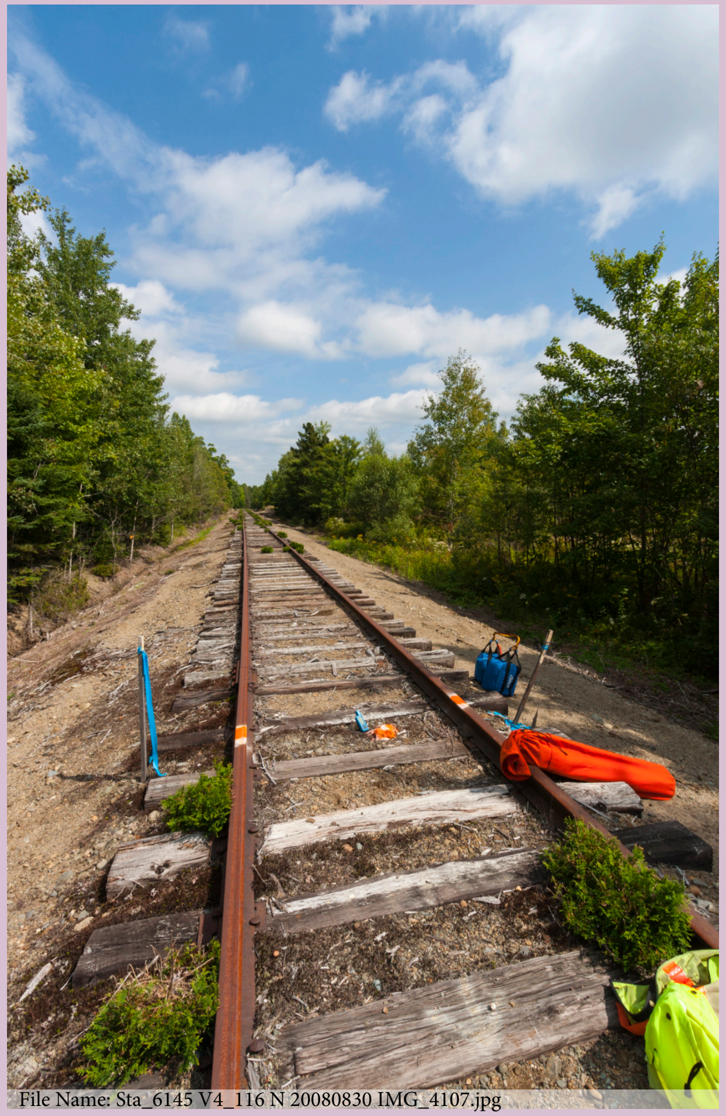

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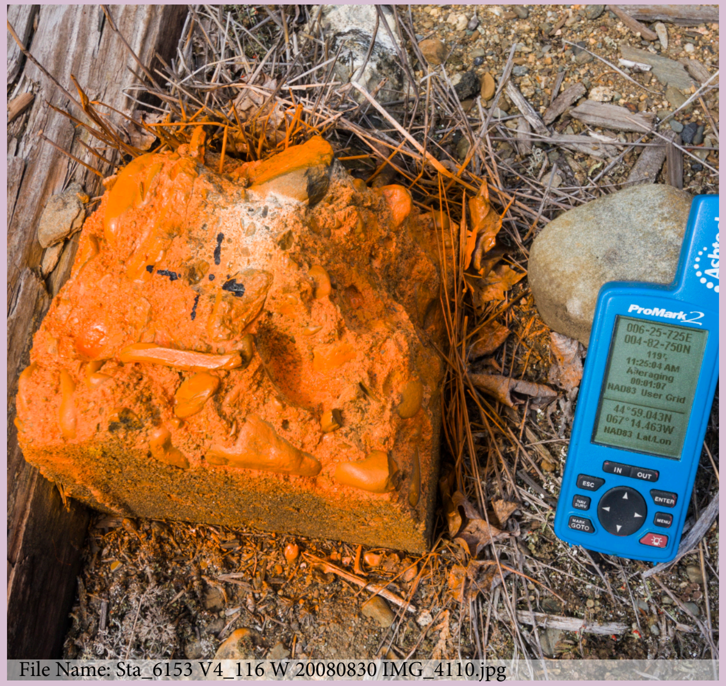
6145



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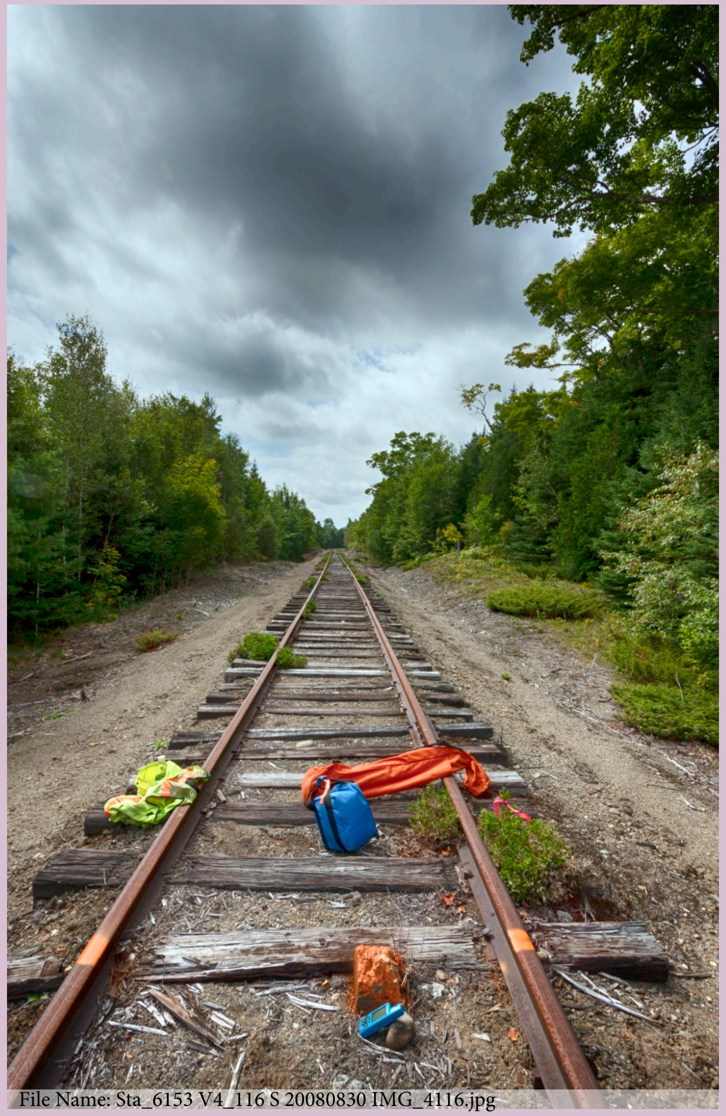

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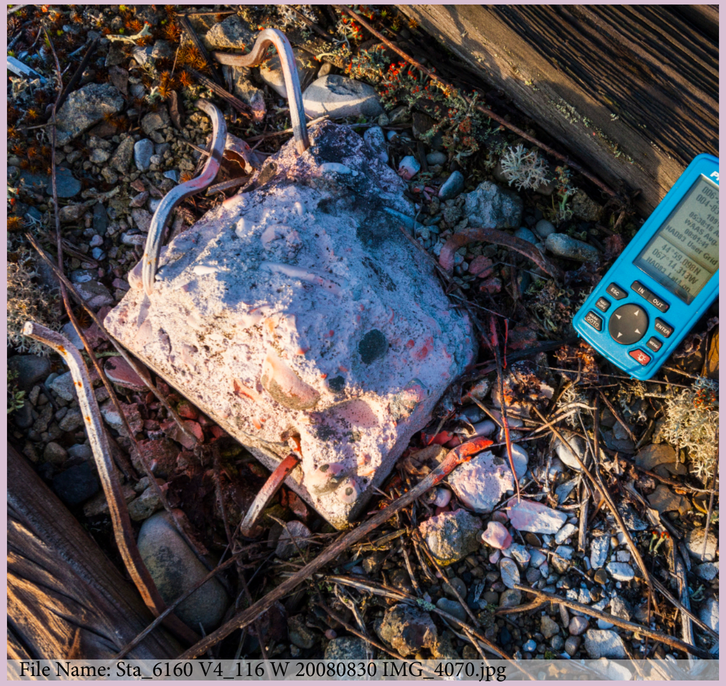
6153



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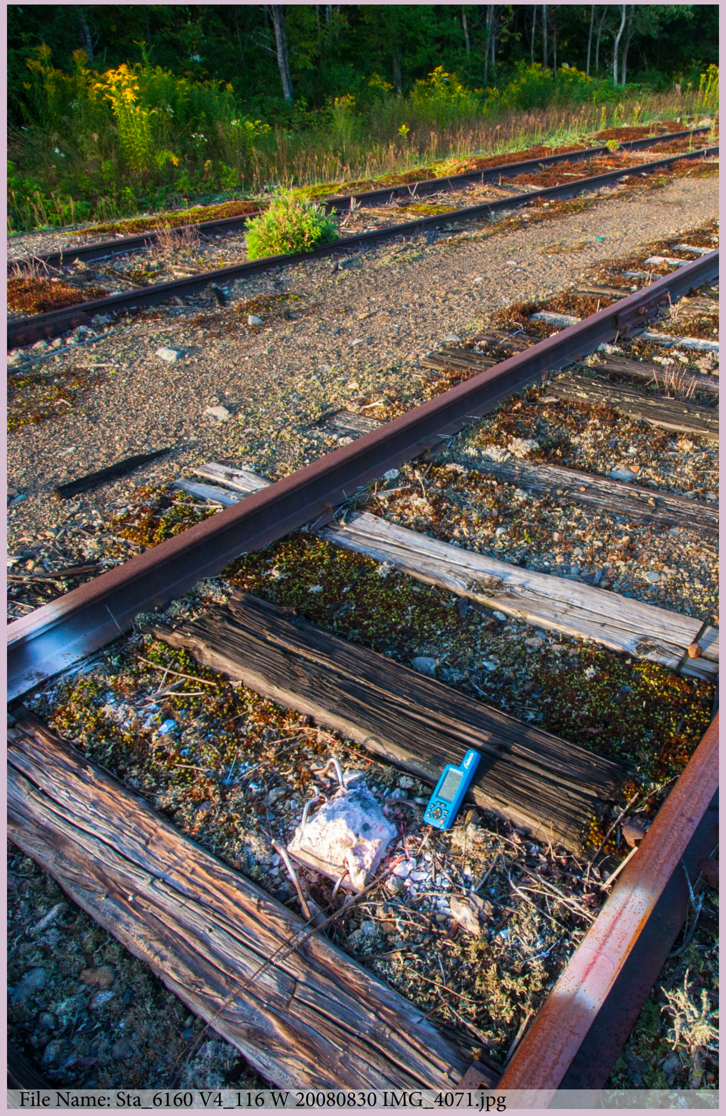

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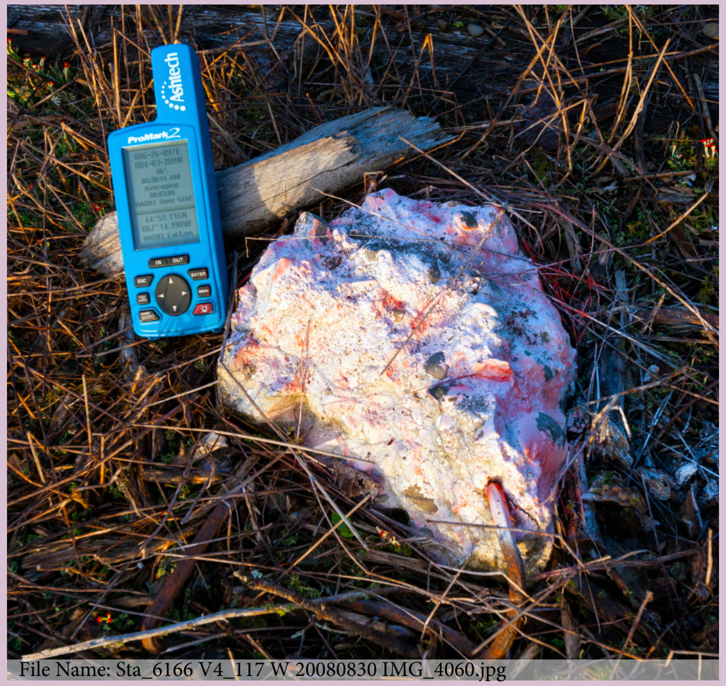
6160



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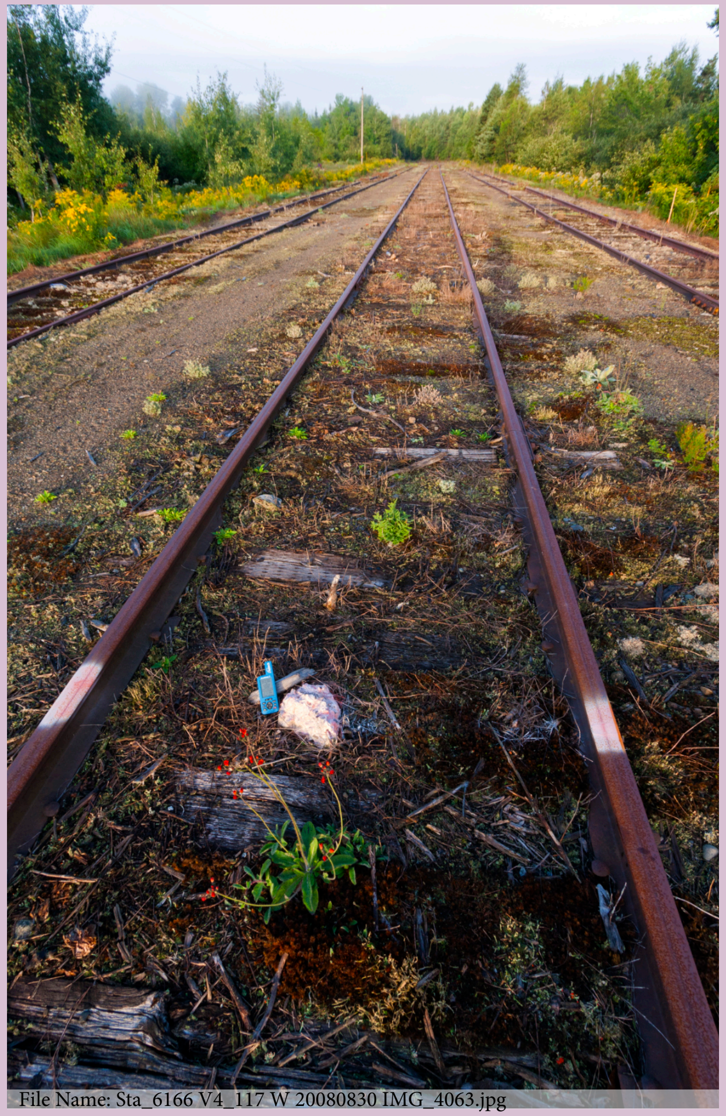

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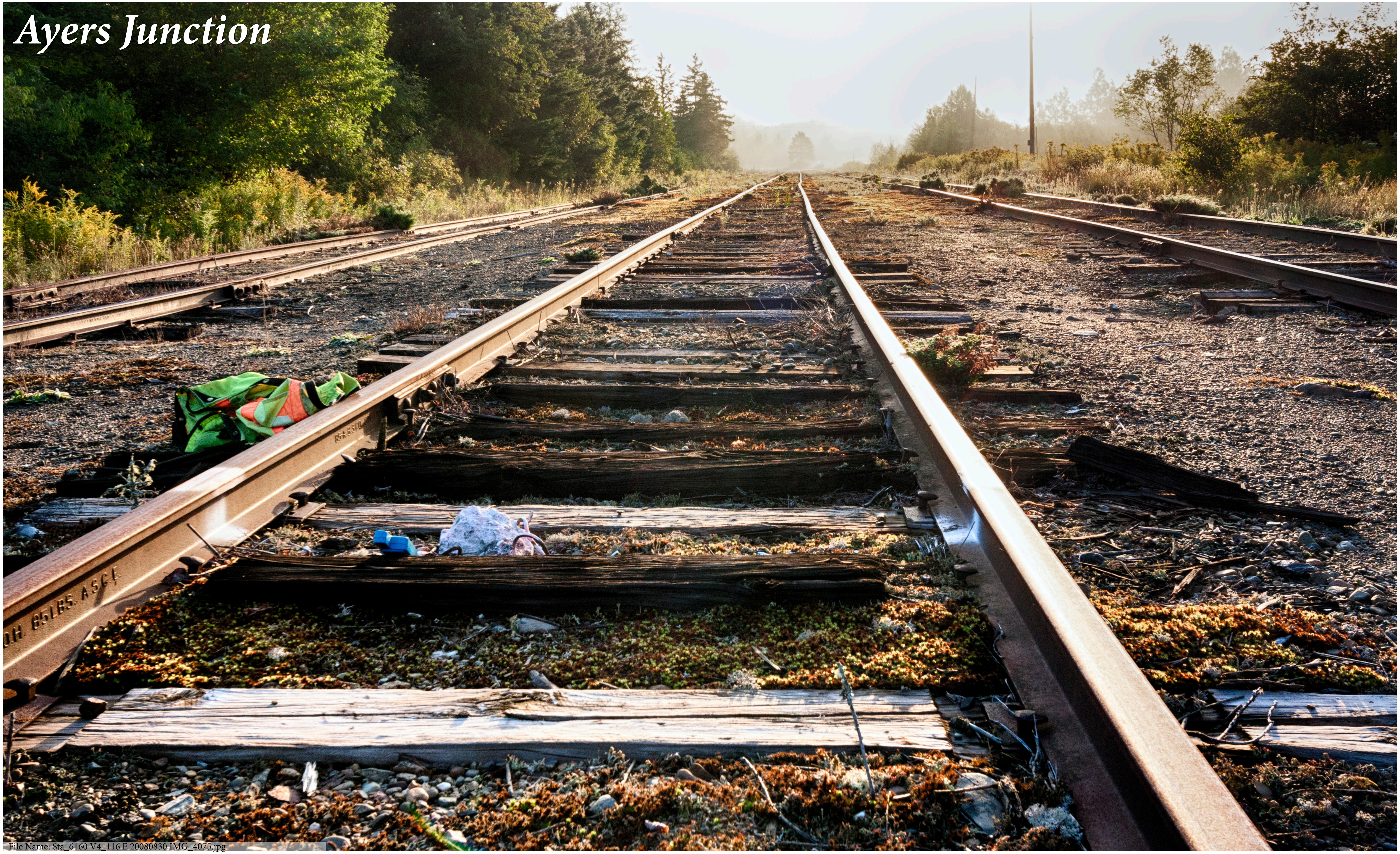
6166

Ayers Junction


OH 65LBS. A.S.C.E.

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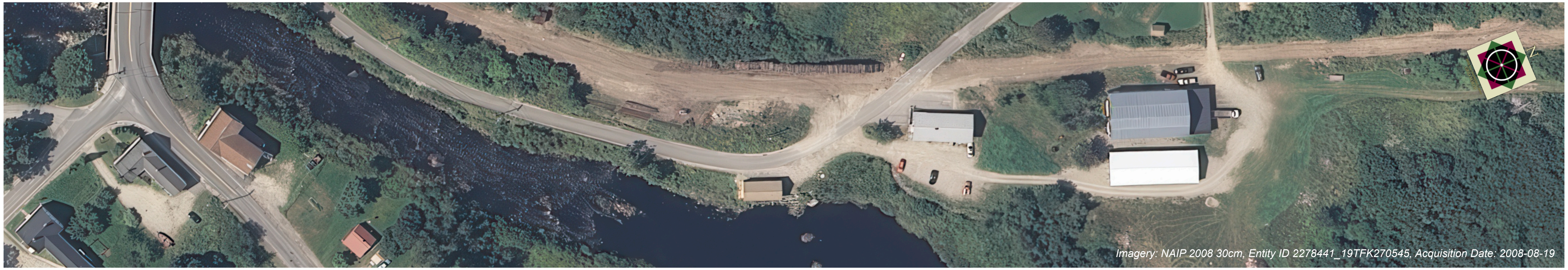
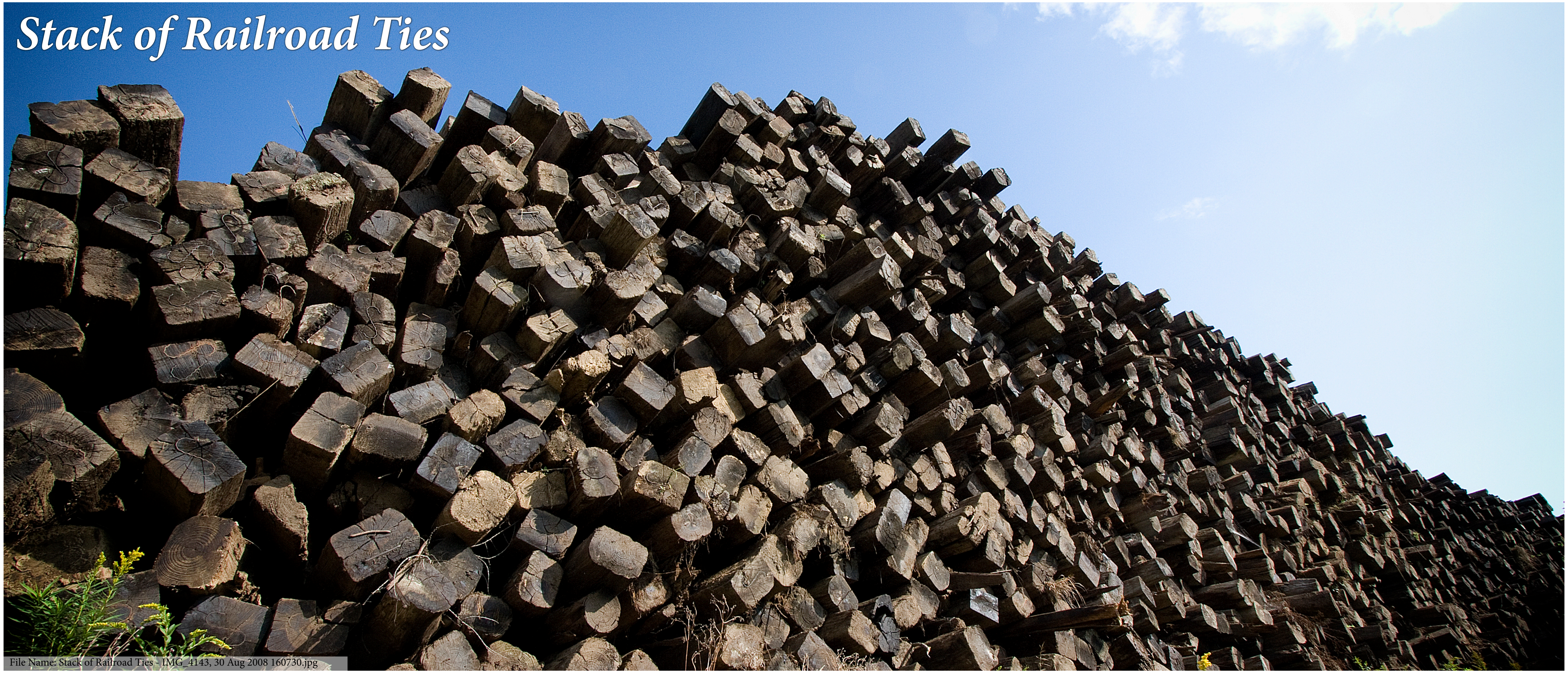
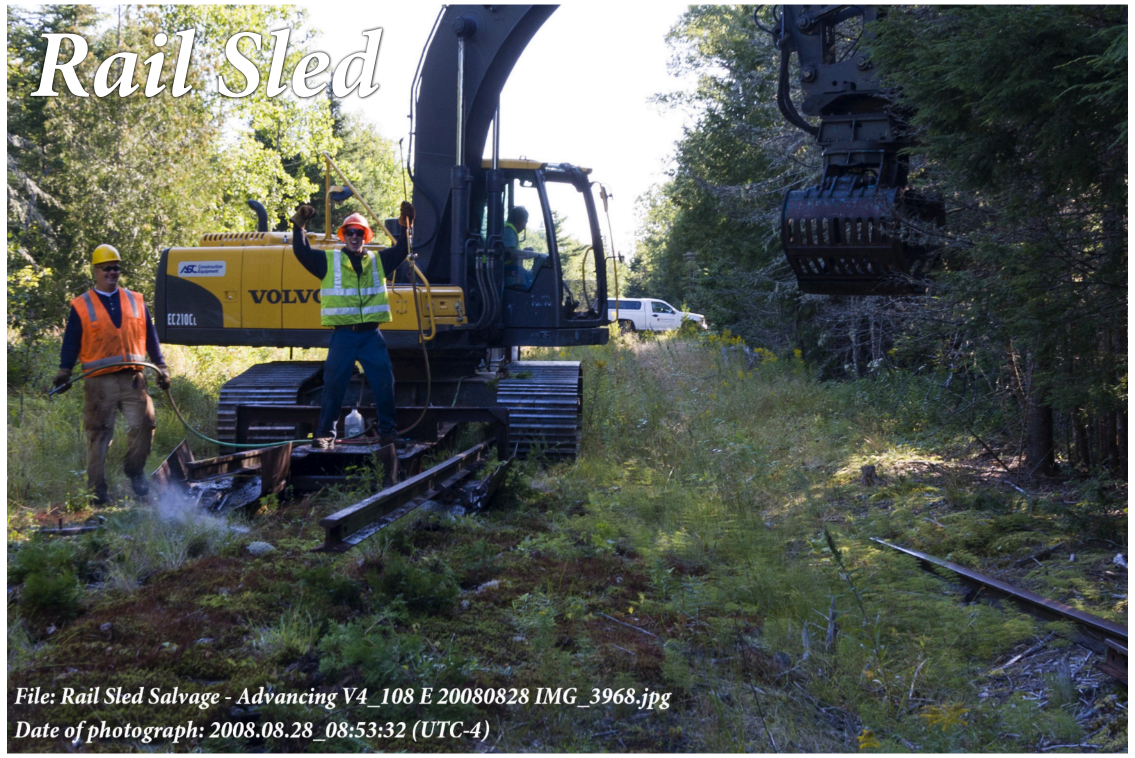


Imagery: NAIP 2008 30cm, Entity ID 2278441_19TFK270545, Acquisition Date: 2008-08-19

Stack of Railroad Ties



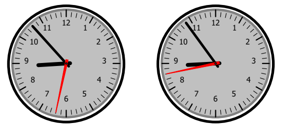
File Name: Stack of Railroad Ties - IMG_4143, 30 Aug 2008 160730.jpg



File: Rail Sled Salvage - Advancing V4_108 E 20080828 IMG_3968.jpg
Date of photograph: 2008.08.28_08:53:32 (UTC-4)

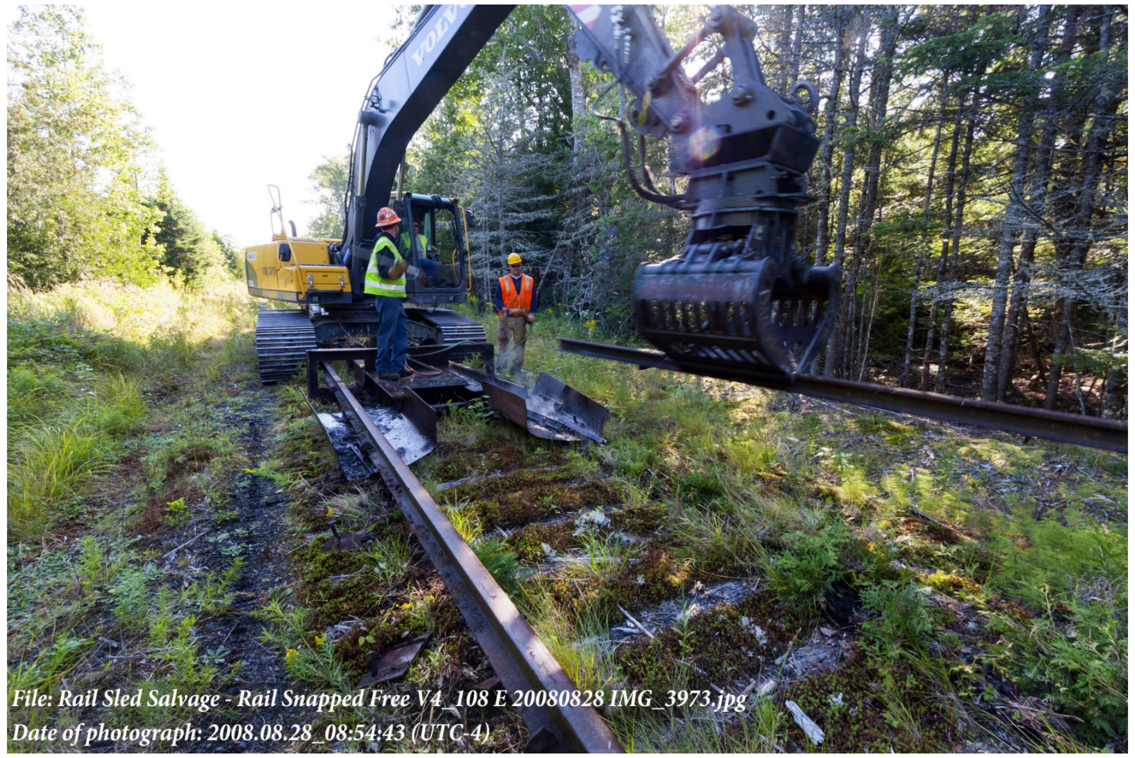
The Driver

Story in 71 Seconds

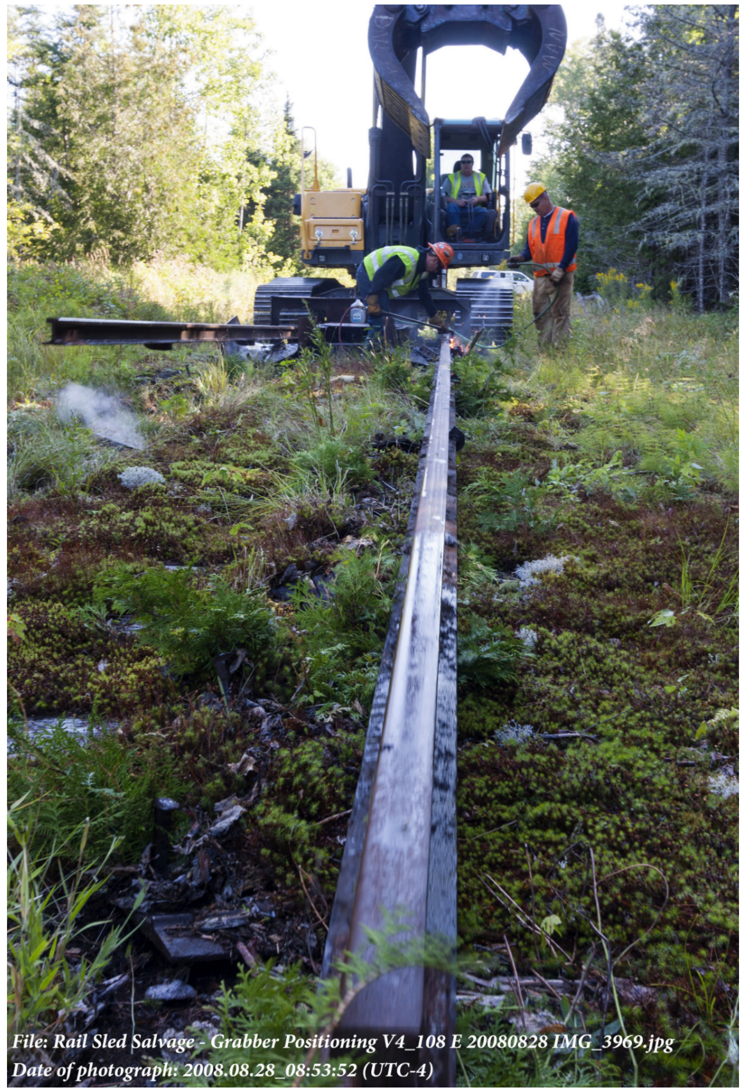


As soon as the operator of the Volvo EC210CL excavator has laid aside the freed rail, he advances the sled one-half rail's length (about 19.5 feet) forward as seen in the first panel of this storyboard on the left. During this movement, the sled is being pulled along while uniformly lifting the rails and their spikes from the ties. Note how remarkably little disturbance there is on the top side of the ties, and the adjacent ground in the wake of the rails' removal.

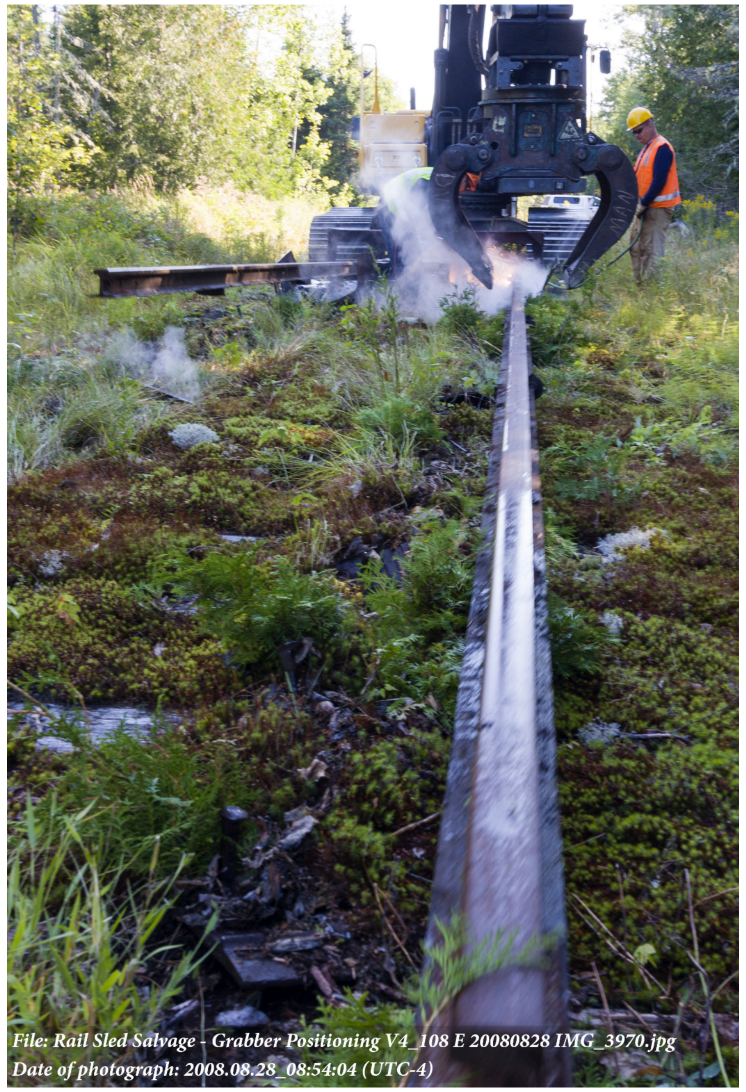
In the four panels below, and while the bolt cutter is cutting through the (4) bolts securing the (2) fish plates on both sides of a single rail, the excavator operator positions the grabber ready to make the final separation . Then in the last photo to the right, lays the freed rail off to the side and the entire process gets repeated.



File: Rail Sled Salvage - Rail Snapped Free V4_108 E 20080828 IMG_3973.jpg
Date of photograph: 2008.08.28_08:54:43 (UTC-4)



File: Rail Sled Salvage - Grabber Positioning V4_108 E 20080828 IMG_3969.jpg
Date of photograph: 2008.08.28_08:53:52 (UTC-4)



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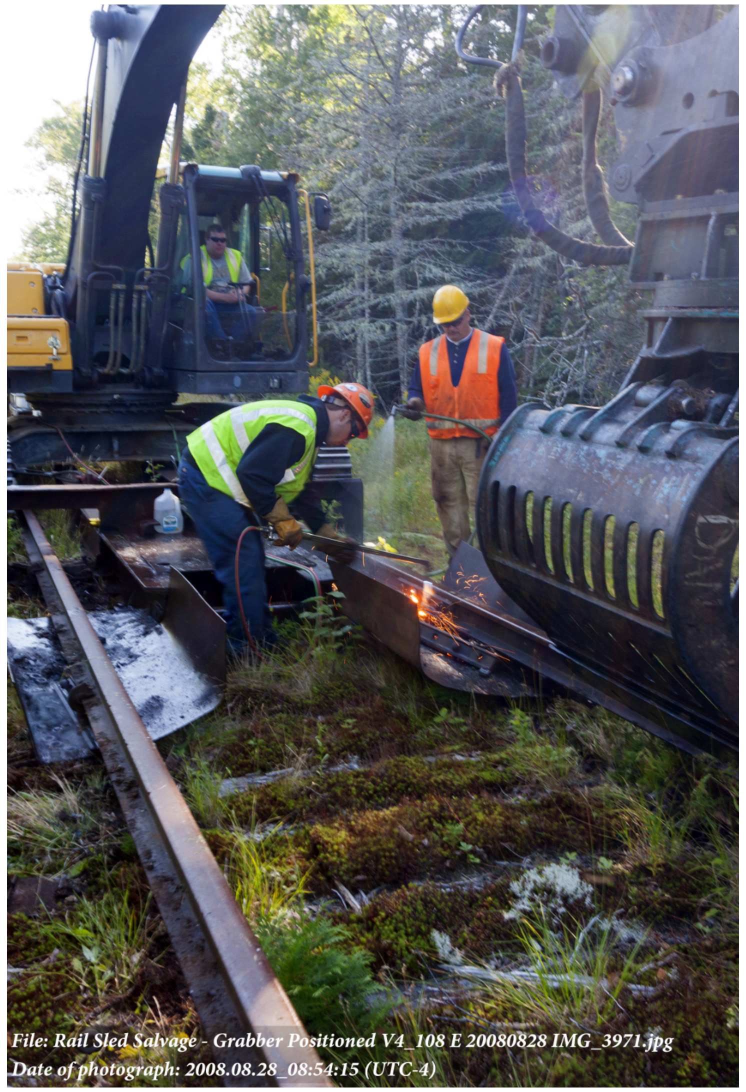
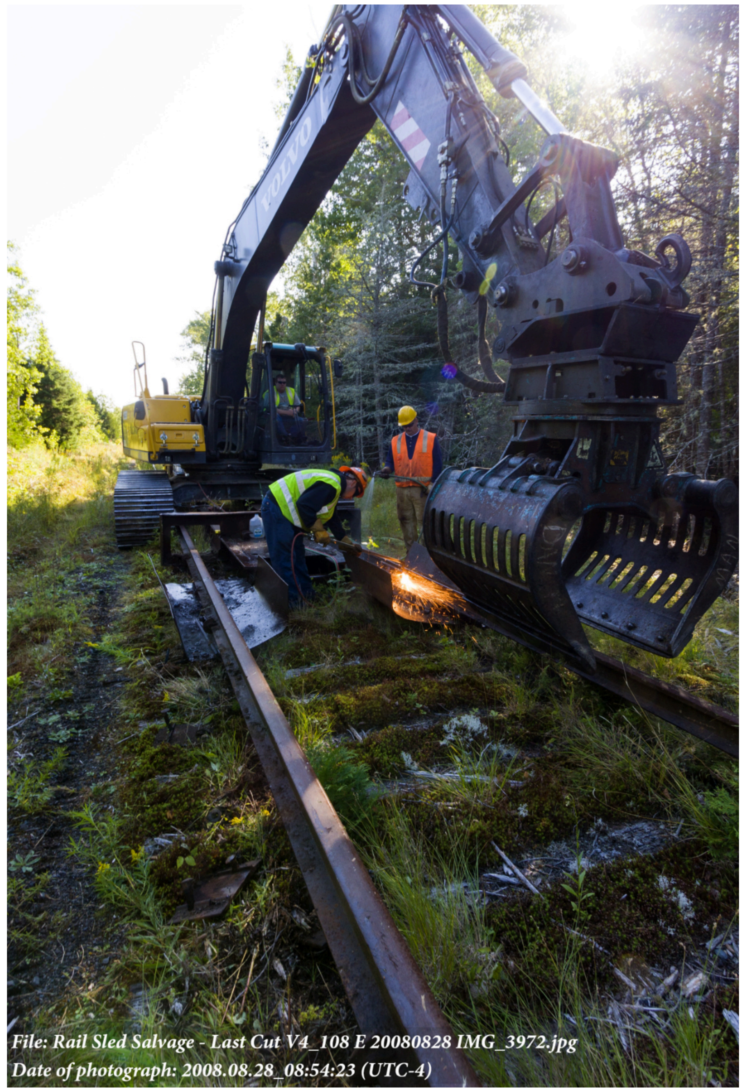
Date of photograph: 2008.08.28_08:54:04 (UTC-4)

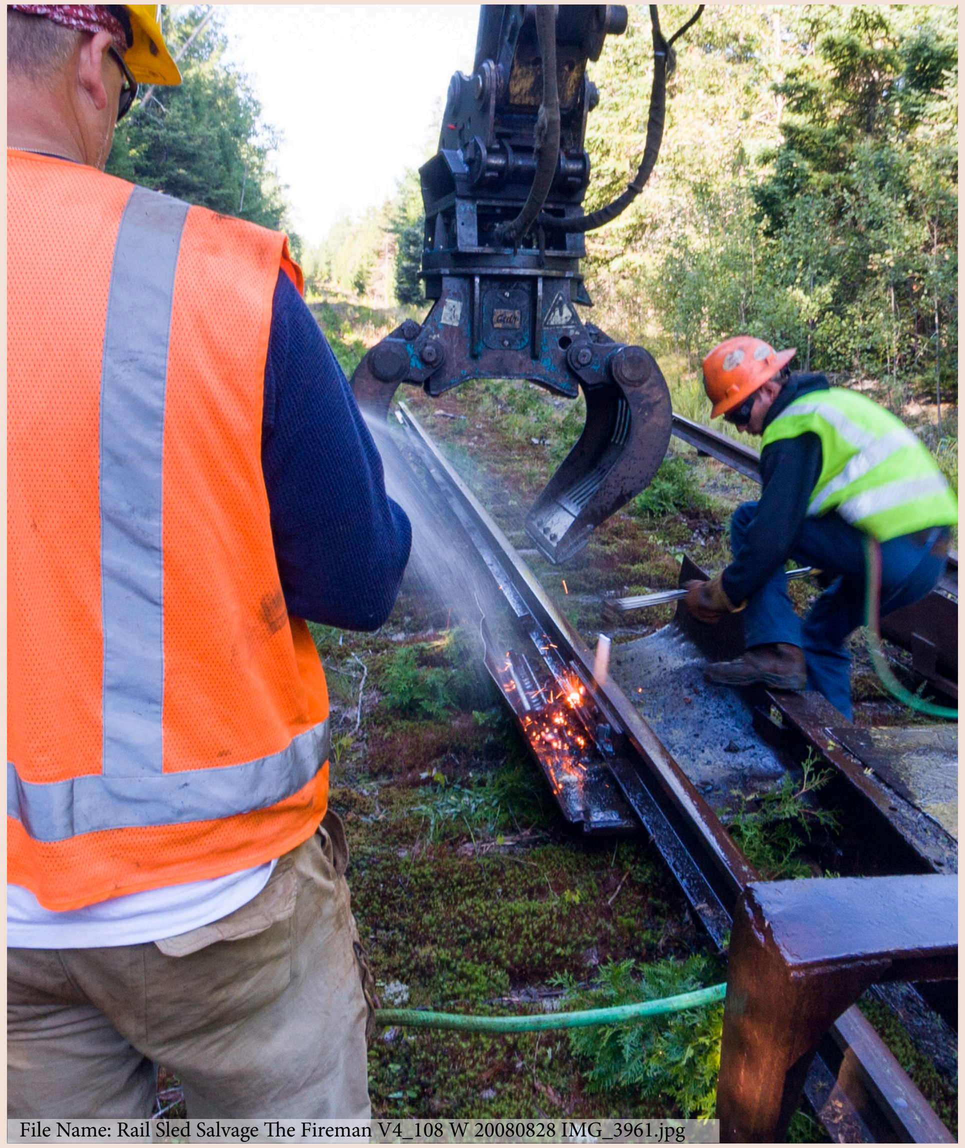


File: Rail Sled Salvage - Grabber Positioned V4_108 E 20080828 IMG_3971.jpg
Date of photograph: 2008.08.28_08:54:15 (UTC-4)



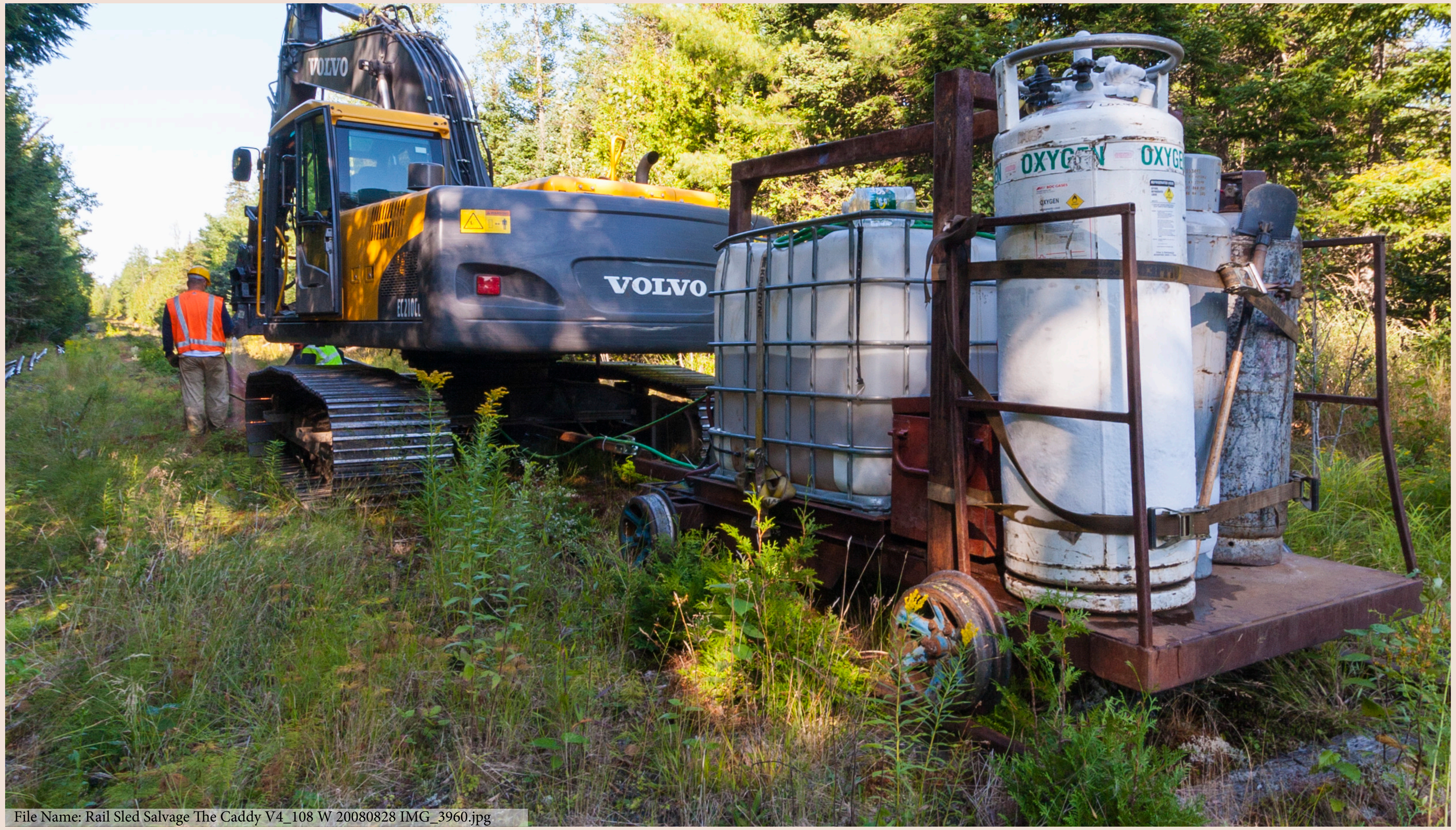
File: Rail Sled Salvage - Last Cut V4_108 E 20080828 IMG_3972.jpg
Date of photograph: 2008.08.28_08:54:23 (UTC-4)

The Fireman



File Name: Rail Sled Salvage The Fireman V4_108 W 20080828 IMG_3961.jpg

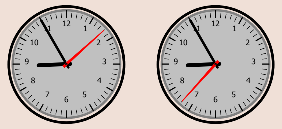
The Caddy



File Name: Rail Sled Salvage The Caddy V4_108 W 20080828 IMG_3960.jpg

The Bolt Cutter

Story in 30 Seconds



Immediately after the freed rail has been laid aside by the Driver, the Bolt Cutter cuts the next set of (4) fish plate bolts in less than a half minute while the Fireman quenches the red hot steel.

Source image: Rail Sled Salvage Bolt Cutter V4_108 SE 20080828 IMG_3974.jpg
Date of photograph: 2008.08.28_08:55:08 (UTC-4)

Source image: Rail Sled Salvage Bolt Cutter V4_108 SE 20080828 IMG_3975.jpg
Date of photograph: 2008.08.28_08:55:15 (UTC-4)

Source image: Rail Sled Salvage Bolt Cutter V4_108 SE 20080828 IMG_3976.jpg
Date of photograph: 2008.08.28_08:55:30 (UTC-4)

Source image: Rail Sled Salvage Bolt Cutter V4_108 SE 20080828 IMG_3978.jpg
Date of photograph: 2008.08.28_08:55:37 (UTC-4)

Preserving the Locations of Railroad Monuments

Work Schedule - September–November 2008

September

GPS Wk	Su	Mo	Tu	We	Th	Fr	Sa
1495		1 245	2 246	3 247	4 248	5 249	6 250
1496	7 251	8 252	9 253	10 254	11 255	12 256	13 257
1497	14 258	15 259	16 260	17 261	18 262	19 263	20 264
1498	21 265	22 266	23 267	24 268	25 269	26 270	27 271
1499	28 272	29 273	30 274				

7:◐ 15:○ 22:◑ 29:●

October

GPS Wk	Su	Mo	Tu	We	Th	Fr	Sa
1499				1 275	2 276	3 277	4 278
1500	5 279	6 280	7 281	8 282	9 283	10 284	11 285
1501	12 286	13 287	14 288	15 289	16 290	17 291	18 292
1502	19 293	20 294	21 295	22 296	23 297	24 298	25 299
1503	26 300	27 301	28 302	29 303	30 304	31 305	

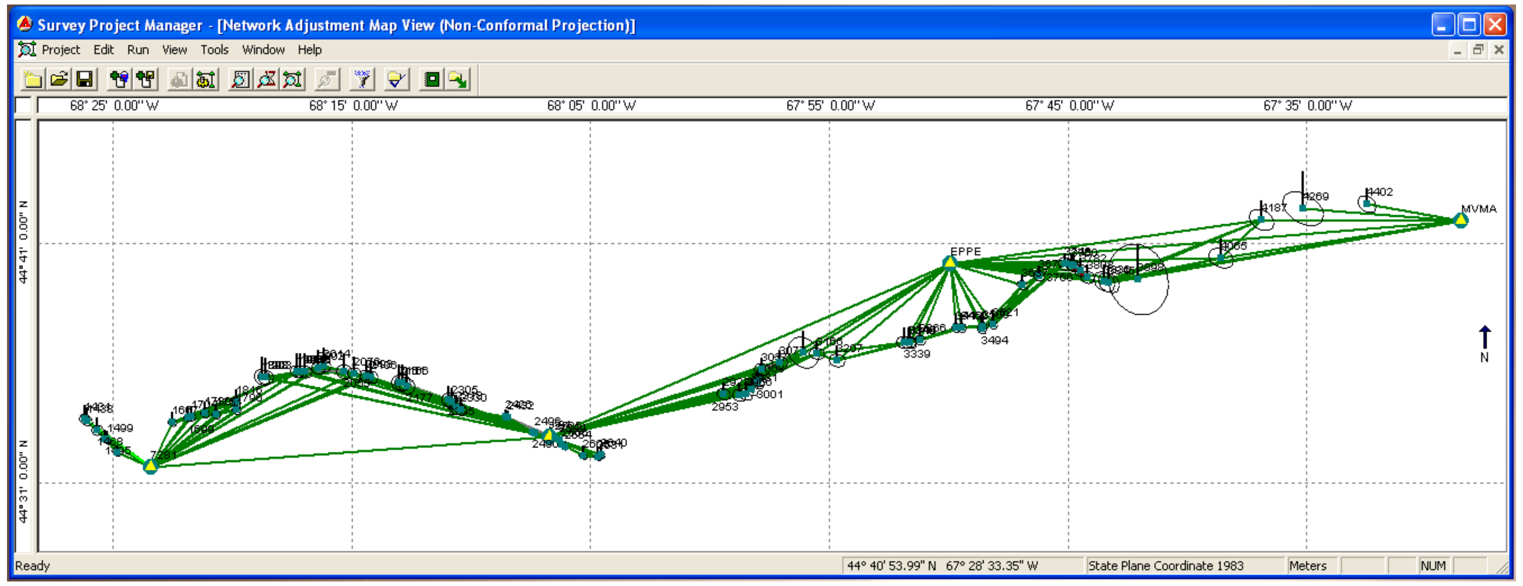
7:◐ 14:○ 21:◑ 28:●

November

GPS Wk	Su	Mo	Tu	We	Th	Fr	Sa
1503							1 306
1504	2 307	3 308	4 309	5 310	6 311	7 312	8 313
1505	9 314	10 315	11 316	12 317	13 318	14 319	15 320
1506	16 321	17 322	18 323	19 324	20 325	21 326	22 327
1507	23 328	24 329	25 330	26 331	27 332	28 333	29 334
1508	30 335						

5:◐ 13:○ 19:◑ 27:●

Portions of this schedule were generated on www.timeanddate.com/calendar



W2W

Whitneyville to Washington Jct.

Back in August 2008, station 5481 was where this effort to preserve the locations of railroad monuments first began, working steadily, easterly, and northerly along the old rail line, all the while staying ahead of Thibodeau's advancing demolition party. By the end of August, I had completed surveying the concrete railroad centerline monuments up to Ayers Junction.

The pace of the demolition crew allowed me to catch up on my regular survey work for paying clients through the month of September, and by the end of the month,

I was able to return my attention back to strictly only doing the surveying of the doomed markers starting in Whitneyville, working westerly to Washington Junction and beyond into Ellsworth up to the Union River. Unlike the earlier field work for the M2A part of the project, no project photography was done concurrently while surveying this longer stretch.

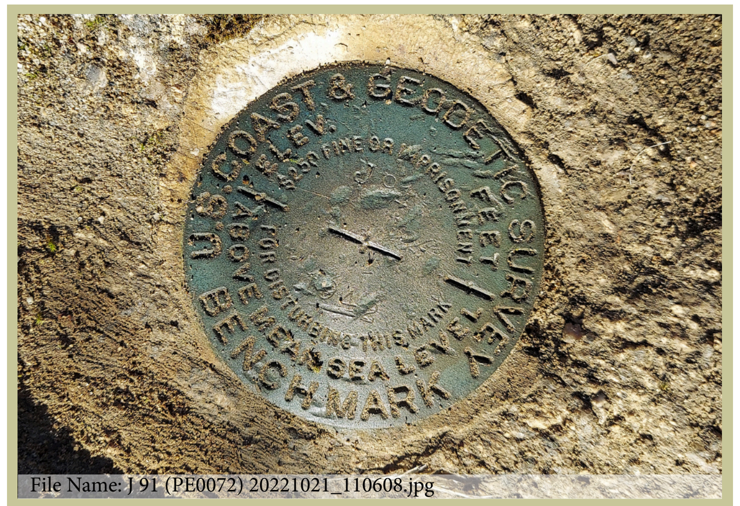
The above network adjustment map is from Ashtech Solutions v2.70 showing processed vectors for W2W. The constrained adjustment held the (4) NGS control points per published NAD83(2011) Epoch 2010.0000 ellipsoidal positions. For details including positional residuals and occupation times see Appendix D - Ashtech Solutions Reports - W2W - Washington Junction to Whitneyville.

Control	Occupied
MVMA	2008.275
MVMA	2008.274
EPPE	2008.306
EPPE	2008.288
EPPE	2008.287
EPPE	2008.277
EPPE	2008.275
J-91	2008.318
J-91	2008.317
J-91	2008.307
J-91	2008.306
J-91	2008.292
7281	2008.323
7281	2008.322
7281	2008.318

File Name: Epping East Base (PD1145) 20221118_094231.jpg

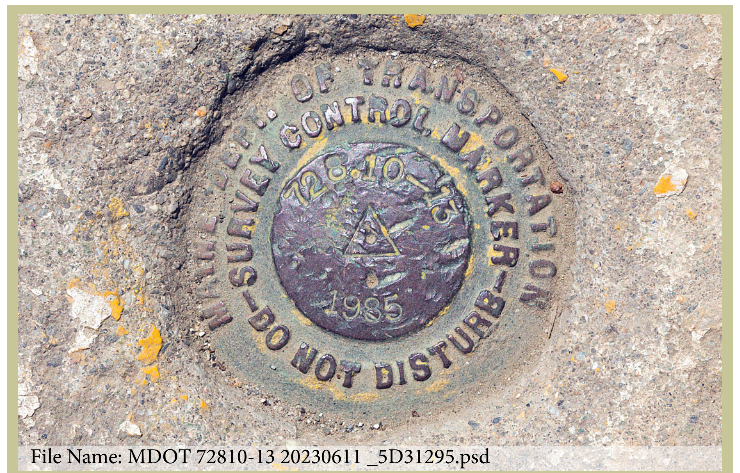
File Name: Epping East Base (PD1145) 20221118_104733.jpg

Epping East Base (PD1145)



File Name: J 91 (PE0072) 20221021_110608.jpg

J 91 (PE0072)



File Name: MDOT 72810-13 20230611 _5D31295.psd

728.10 13 (AJ2720)

CONTROL

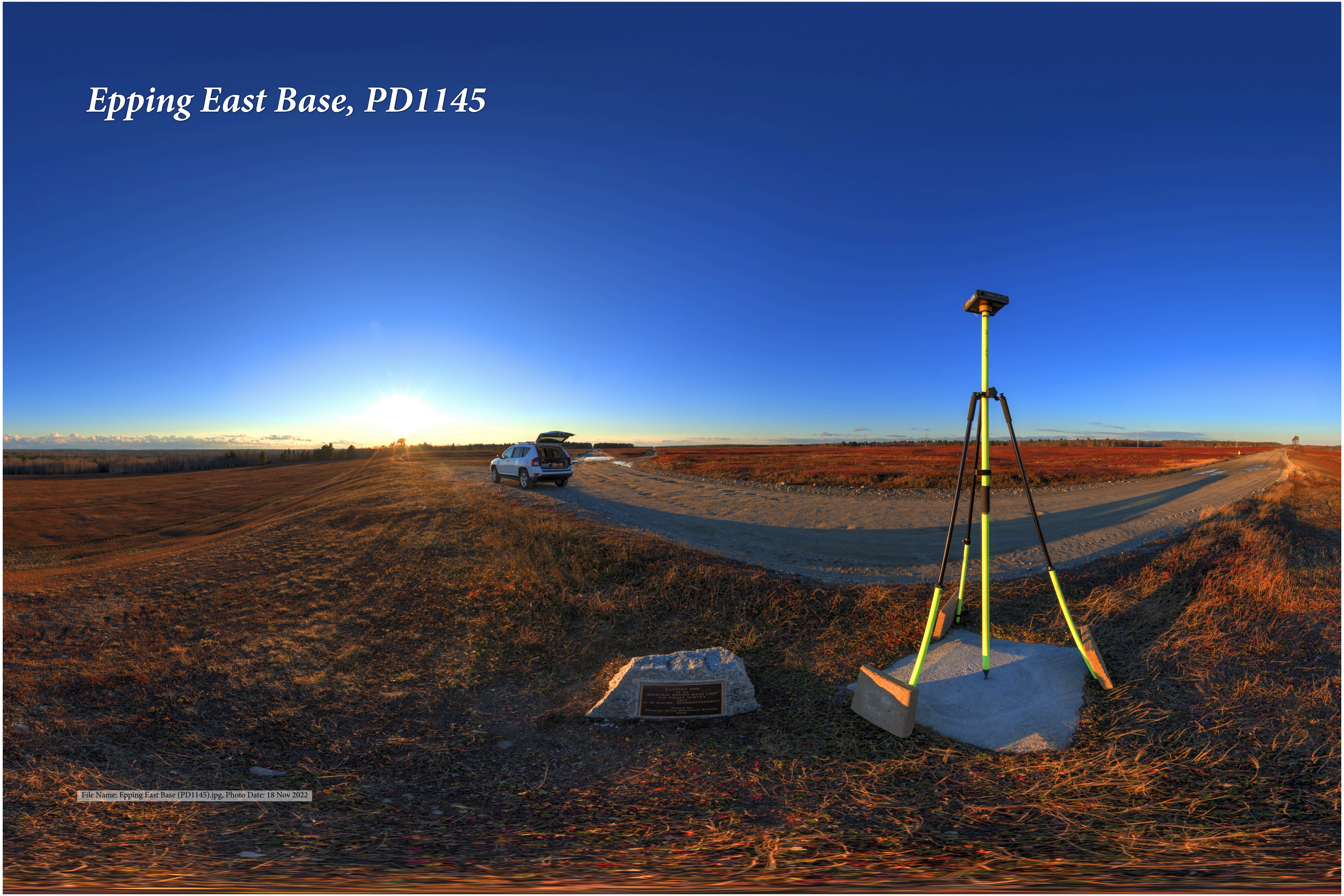
```
1    National Geodetic Survey, Retrieval Date = JANUARY 11, 2026 12:42:38 EST
AB2658 **********************************************************************
AB2658  CBN         -  This is a Cooperative Base Network Control Station.
AB2658  PACS        -  This is a Primary Airport Control Station.
AB2658  DESIGNATION -  MVM A
AB2658  PID         -  AB2658
AB2658  STATE/COUNTY-  ME/WASHINGTON
AB2658  COUNTRY     -  US
AB2658  USGS QUAD   -  MACHIAS (2018)
AB2658
AB2658                          *CURRENT SURVEY CONTROL
AB2658  ______________________________________________________________________
AB2658* NAD 83(2011) POSITION- 44 41 58.47587(N) 067 28 33.34623(W)   ADJUSTED
AB2658* NAD 83(2011) ELLIP HT-    -2.657 (meters)        (06/27/12)   ADJUSTED
AB2658* NAD 83(2011) EPOCH   -  2010.00
AB2658* NAVD 88 ORTHO HEIGHT -    20.41  (meters)       67.0   (feet) GPS OBS
AB2658  ______________________________________________________________________
```

```
1    National Geodetic Survey, Retrieval Date = JANUARY 11, 2026 12:50:44 EST
PD1145 **********************************************************************
PD1145  FBN         -  This is a Federal Base Network Control Station.
PD1145  DESIGNATION -  EPPING EAST BASE
PD1145  PID         -  PD1145
PD1145  STATE/COUNTY-  ME/WASHINGTON
PD1145  COUNTRY     -  US
PD1145  USGS QUAD   -  EPPING (2018)
PD1145
PD1145                          *CURRENT SURVEY CONTROL
PD1145  ______________________________________________________________________
PD1145* NAD 83(2011) POSITION- 44 40 09.31127(N) 067 49 55.37302(W)   ADJUSTED
PD1145* NAD 83(2011) ELLIP HT-    53.679 (meters)        (06/27/12)   ADJUSTED
PD1145* NAD 83(2011) EPOCH   -  2010.00
PD1145* NAVD 88 ORTHO HEIGHT -    77.4   (meters)      254.    (feet) GPS OBS
PD1145  ______________________________________________________________________
```

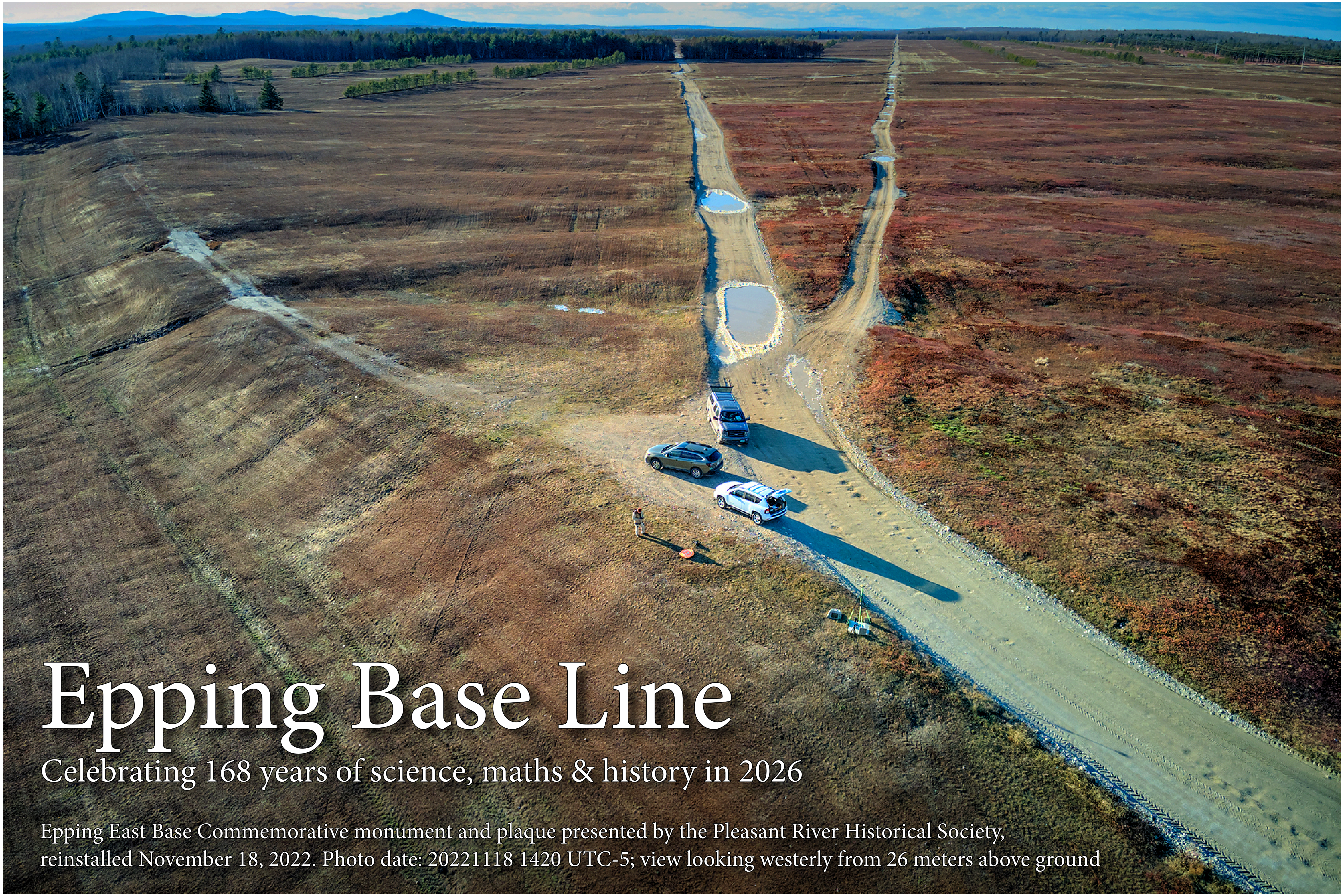
```
1    National Geodetic Survey, Retrieval Date = JANUARY 11, 2026 12:55:31 EST
PE0072 **********************************************************************
PE0072  DESIGNATION -  J 91
PE0072  PID         -  PE0072
PE0072  STATE/COUNTY-  ME/HANCOCK
PE0072  COUNTRY     -  US
PE0072  USGS QUAD   -  TUNK LAKE (2018)
PE0072
PE0072                          *CURRENT SURVEY CONTROL
PE0072  ______________________________________________________________________
PE0072* NAD 83(2011) POSITION- 44 32 57.00025(N) 068 06 43.00584(W)   ADJUSTED
PE0072* NAD 83(2011) ELLIP HT-    36.423 (meters)        (06/27/12)   ADJUSTED
PE0072* NAD 83(2011) EPOCH   -  2010.00
PE0072* NAVD 88 ORTHO HEIGHT -    60.477 (meters)      198.42  (feet) ADJUSTED
PE0072  ______________________________________________________________________
```

```
1    National Geodetic Survey, Retrieval Date = JANUARY 11, 2026 12:58:18 EST
AJ2720 **********************************************************************
AJ2720  CBN         -  This is a Cooperative Base Network Control Station.
AJ2720  DESIGNATION -  728.10 13
AJ2720  PID         -  AJ2720
AJ2720  STATE/COUNTY-  ME/HANCOCK
AJ2720  COUNTRY     -  US
AJ2720  USGS QUAD   -  ELLSWORTH (2018)
AJ2720
AJ2720                          *CURRENT SURVEY CONTROL
AJ2720  ______________________________________________________________________
AJ2720* NAD 83(2011) POSITION- 44 31 38.86008(N) 068 23 25.14592(W)   ADJUSTED
AJ2720* NAD 83(2011) ELLIP HT-    28.690 (meters)        (06/27/12)   ADJUSTED
AJ2720* NAD 83(2011) EPOCH   -  2010.00
AJ2720* NAVD 88 ORTHO HEIGHT -    53.1   (meters)      174.    (feet) GPS OBS
AJ2720  ______________________________________________________________________
```

Epping East Base, PD1145


EASTERN END
of the
HISTORIC EPPING BASE LINE
U.S. COAST SURVEY
1857
A. D. BACHE, SUPERINTENDENT
Placed by
Pleasant River Historical Society
2020

File Name: Epping East Base (PD1145).jpg, Photo Date: 18 Nov 2022



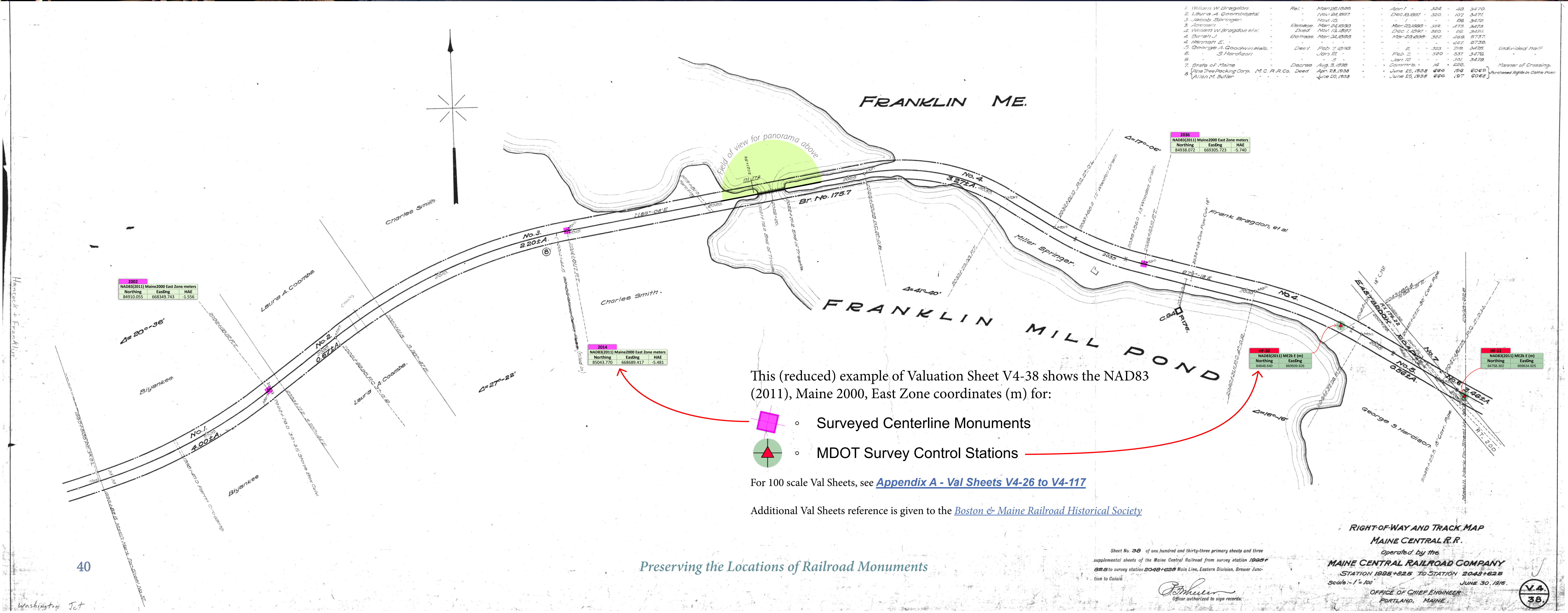
Epping Base Line

Celebrating 168 years of science, maths & history in 2026

Epping East Base Commemorative monument and plaque presented by the Pleasant River Historical Society, reinstalled November 18, 2022. Photo date: 20221118 1420 UTC-5; view looking westerly from 26 meters above ground

Franklin Mill Pond

File Name: Mill Brook at bridge IMG_3861 Panorama.jpg


FRANKLIN ME.
Field of view for panorama above
Br. No. 175.7
No. 1. 4.00±A.
No. 2. 0.67±A.
No. 3. 2.20±A.
No. 4. 3.27±A.
No. 4.
No. 5. 0.06±A.
No. 6. 3.46±A.
No. 7
Charles Smith
Charles Smith.
Laura A. Coombs
Laura A. Coombs
Biyankee
Biyankee
Miller Springer
Frank Bragdon, et al
George S. Hardison
EASTBROOK ROAD
Δ= 20°-36'
Δ=27°-22'
Δ=41°-40'
Δ=17°-06'
Δ=16°-16'
FRANKLIN MILL POND
Hancock + Franklin
Washington Jct.
Sheet No. 38 of one hundred and thirty-three primary sheets and three supplemental sheets of the Maine Central Railroad from survey station 1995+82.5 to survey station 2048+62.5 Main Line, Eastern Division, Brewer Junction to Calais.
Officer authorized to sign records.
RIGHT-OF-WAY AND TRACK MAP
MAINE CENTRAL R.R.
operated by the
MAINE CENTRAL RAILROAD COMPANY
STATION 1995+82.5 TO STATION 2048+62.5
Scale:- 1" = 100'
JUNE 30, 1916.
OFFICE OF CHIEF ENGINEER
PORTLAND, MAINE.
V.4.
38.

2002		
NAD83(2011) Maine2000 East Zone meters		
Northing	Easting	HAE
84910.055	668349.743	-1.556

2014		
NAD83(2011) Maine2000 East Zone meters		
Northing	Easting	HAE
85043.770	668689.417	-5.481

2036		
NAD83(2011) Maine2000 East Zone meters		
Northing	Easting	HAE
84938.072	669305.723	-5.740

HF-50	
NAD83(2011) ME2k E (m)	
Northing	Easting
84848.640	669509.926

HF-51	
NAD83(2011) ME2k E (m)	
Northing	Easting
84758.302	669634.925

This (reduced) example of Valuation Sheet V4-38 shows the NAD83 (2011), Maine 2000, East Zone coordinates (m) for:

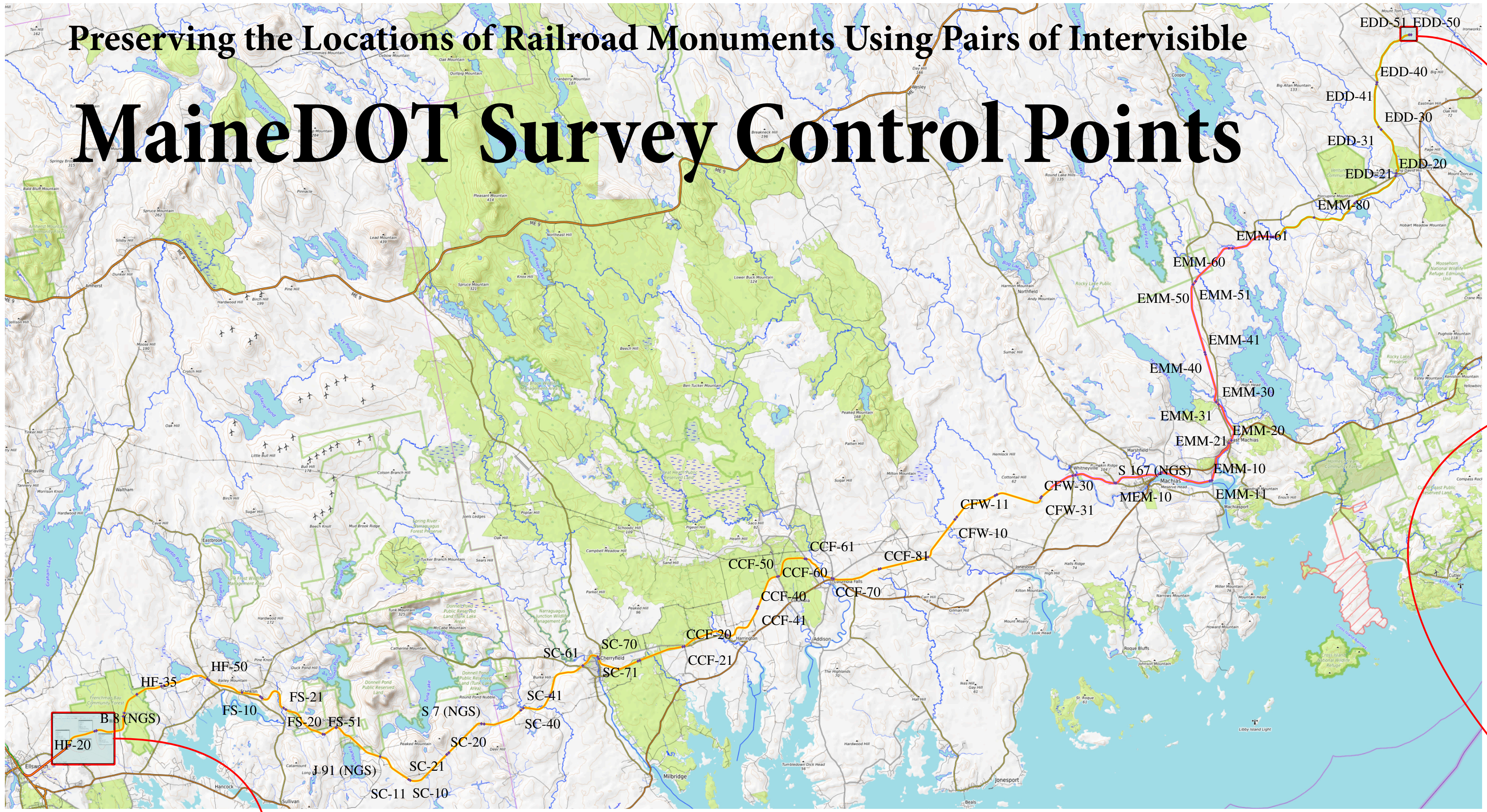
- Surveyed Centerline Monuments
- MDOT Survey Control Stations

For 100 scale Val Sheets, see ***Appendix A - Val Sheets V4-26 to V4-117***

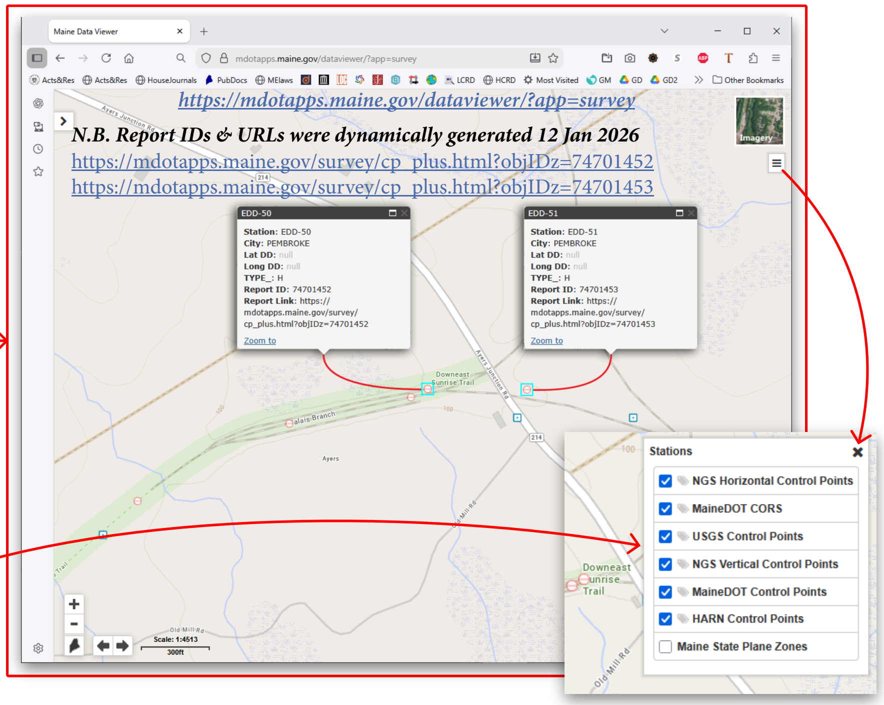
Additional Val Sheets reference is given to the *Boston & Maine Railroad Historical Society*

Preserving the Locations of Railroad Monuments Using Pairs of Intervisible

MaineDOT Survey Control Points



EDD-51 EDD-50
EDD-40
EDD-41
EDD-30
EDD-31
EDD-20
EDD-21
EMM-80
EMM-61
EMM-60
EMM-50
EMM-51
EMM-41
EMM-40
EMM-30
EMM-31
EMM-20
EMM-21
S 167 (NGS)
EMM-10
EMM-11
MEM-10
CFW-30
CFW-31
CFW-11
CFW-10
CCF-61
CCF-81
CCF-50
CCF-60
CCF-40
CCF-70
CCF-41
CCF-20
CCF-21
SC-70
SC-71
SC-61
SC-41
SC-40
SC-20
SC-21
SC-11 SC-10
S 7 (NGS)
J 91 (NGS)
HF-50
HF-35
FS-21
FS-10
FS-20
FS-51
B 8 (NGS)
HF-20



Maine Data Viewer
mdotapps.maine.gov/dataviewer/?app=survey
Imagery
Zoom to
Downeast Sunrise Trail
Calais Branch
Ayers
Ayers Junction Rd
Old Mill Rd
Scale: 1:4513
300ft

https://mdotapps.maine.gov/dataviewer/?app=survey

N.B. Report IDs & URLs were dynamically generated 12 Jan 2026

https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74701452

https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74701453

EDD-50

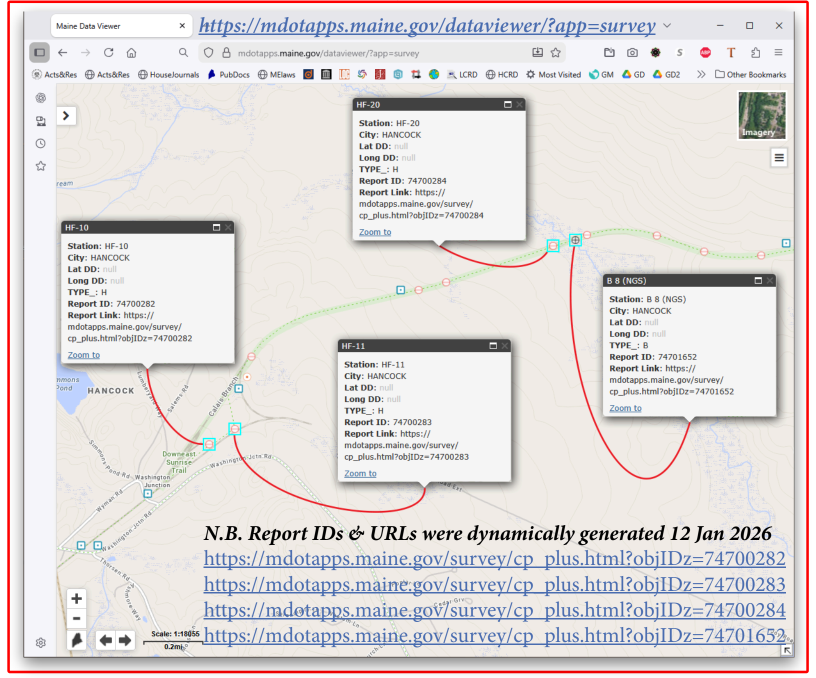
Station: EDD-50
City: PEMBROKE
Lat DD: null
Long DD: null
TYPE_: H
Report ID: 74701452
Report Link: https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74701452

EDD-51

Station: EDD-51
City: PEMBROKE
Lat DD: null
Long DD: null
TYPE_: H
Report ID: 74701453
Report Link: https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74701453

Stations

- ☑ NGS Horizontal Control Points
- ☑ MaineDOT CORS
- ☑ USGS Control Points
- ☑ NGS Vertical Control Points
- ☑ MaineDOT Control Points
- ☑ HARN Control Points
- ☐ Maine State Plane Zones



Maine Data Viewer
mdotapps.maine.gov/dataviewer/?app=survey
Imagery
Zoom to
HANCOCK
Downeast Sunrise Trail
Washington Junction
Calais Branch
Scale: 1:18055
0.2mi

https://mdotapps.maine.gov/dataviewer/?app=survey

HF-20

Station: HF-20
City: HANCOCK
Lat DD: null
Long DD: null
TYPE_: H
Report ID: 74700284
Report Link: https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74700284

HF-10

Station: HF-10
City: HANCOCK
Lat DD: null
Long DD: null
TYPE_: H
Report ID: 74700282
Report Link: https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74700282

B 8 (NGS)

Station: B 8 (NGS)
City: HANCOCK
Lat DD: null
Long DD: null
TYPE_: B
Report ID: 74701652
Report Link: https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74701652

HF-11

Station: HF-11
City: HANCOCK
Lat DD: null
Long DD: null
TYPE_: H
Report ID: 74700283
Report Link: https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74700283

N.B. Report IDs & URLs were dynamically generated 12 Jan 2026

https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74700282

https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74700283

https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74700284

https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74701652

Reestablishing Locations

After sounding the alarm[5] in mid-August 2008 that 20 miles of centerline monuments had already been destroyed, all parties, the surveying community and the MaineDOT, were in total agreement that the most pressing issue was to precisely survey the remaining concrete markers. But those same parties weren't initially agreed as to how best reestablish their locations, if at all, once the construction of the Down East Sunrise Trail (DEST) had been completed.

The broader community of land surveyors preferred to have all of the surveyed locations remonumented below grade. The MaineDOT preferred to set intervisible pairs of survey control stations much like what's been done for its highway projects. By the spring of 2009, Rep. Langley had pulled the LD addressing this issue legislatively, and both the Maine Society of Land Surveyors Executive Committee and the MaineDOT had agreed to the MDOT strategy[6] of setting intervisible pairs of monuments.

The map above shows an overview of the 47 pairs of intervisible survey control points located between Washington Junction and Ayers Junction for the MaineDOT Project 014259.00. Most of the stations are 4' steel rods with aluminum identification caps set below the surface. In a few instances, existing NGS marks are the companion monument, and in a couple of those instances, the NGS mark is given in NAD83(2011). All the rest are given by MDOT in NAD83(1996). All points listed in [Appendix E - MDOT Survey Control & MDOT Datasheets](#) are in the reference frame NAD83(2011), having been transformed as needed from NAD83(1996).

MDOT DataViewer App

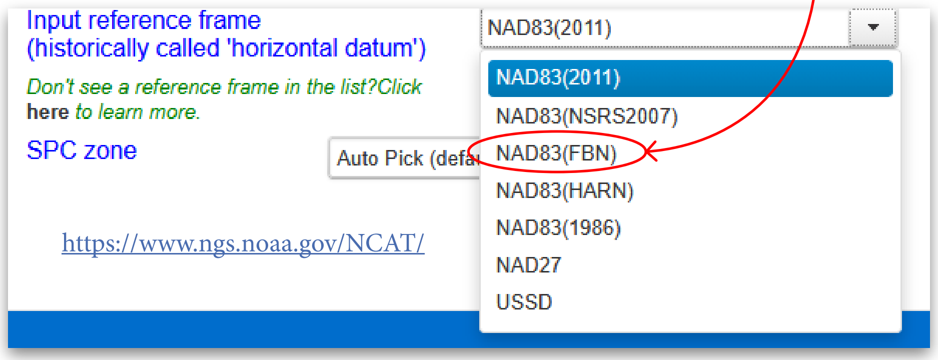
If you're surveying along any portion of the former rail corridor and are looking for the nearest MDOT Survey Control points using the DataViewer Survey App (https://mdotapps.maine.gov/dataviewer/?app=survey), there are a couple of things to keep in mind.

Firstly, be sure that all station control types are visible as multiple control types are used.

When you click on a control station symbol, a little report pops up identifying the station name corresponding with the listed control stations in [Appendix E](#) - MDOT Survey Control Points Table. The popup report will also give a Report ID number which, for reasons I've never fully understood, isn't a static number, but is subject to randomly occurring dynamic updates. The Report ID number is also the same value given for the html object, `objIDz` - see the tail end of the given URL at the bottom of the popup report. All of which means that link to a specific MDOT survey control station datasheet is only good for a limited amount of time.

For this reason, [Appendix E - MDOT Survey Control & MDOT Datasheets](#) has been developed which includes all MDOT datasheets for MaineDOT Project 014259.00, but without URLs.

Lastly, keep in mind that the reference frame that was originally used for most of the MDOT published control stations was NAD83(1996). This is clearly noted on the datasheet, though there may be some exceptions. To transform to a different reference frame, use the National Geodetic Survey's [*National Coordinate Conversion and Transformation Tool*](#) (***NCAT***), noting to use NAD83(FBN) as the Input reference frame.



Auto Pick (defa

Input reference frame
(historically called 'horizontal datum')

Don't see a reference frame in the list?Click **here** *to learn more.*

SPC zone

NAD83(2011)

- NAD83(2011)
- NAD83(NSRS2007)
- NAD83(FBN)
- NAD83(HARN)
- NAD83(1986)
- NAD27
- USSD

https://www.ngs.noaa.gov/NCAT/

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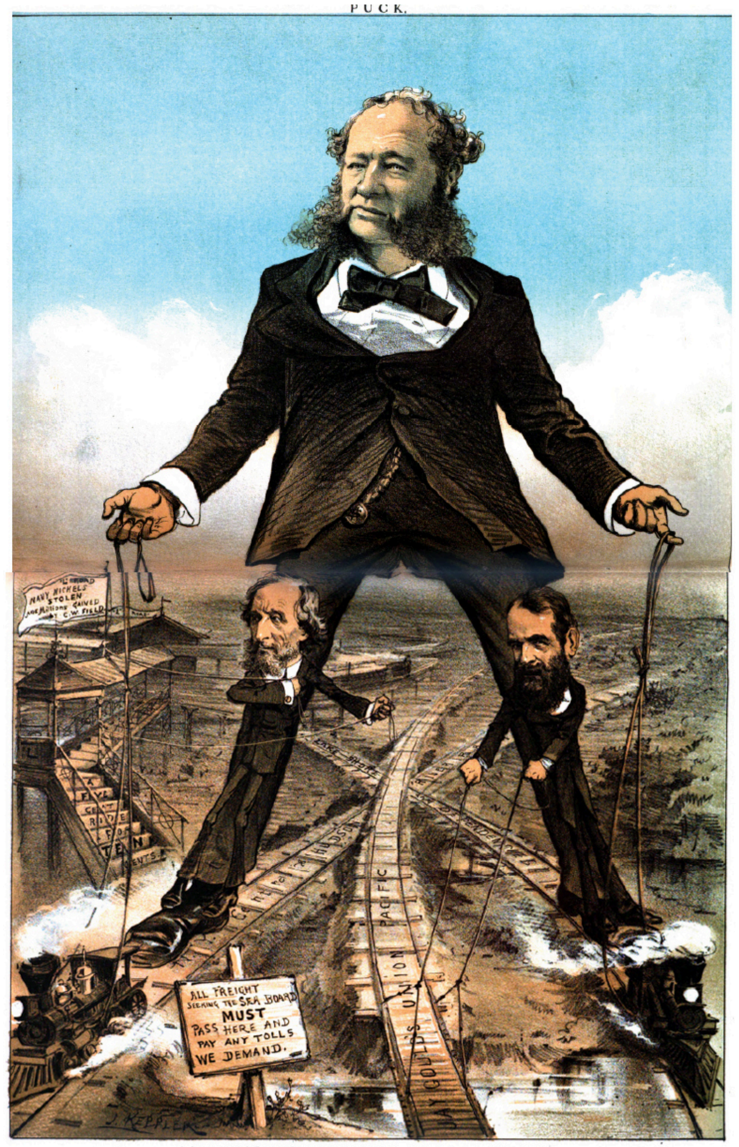
[5] See [letter dated 16 Aug 2008](#) from V. Kelly Bellis to Hancock and Washington County land surveyors

[6] See [letter dated 13 Feb 2009](#) from Bruce A. Van Note, MaineDOT Deputy Commissioner, to Maine Representative Brian Langley which included MDOT's *Boundary Preservation Strategy*

A Very Brief Story Behind Val Sheets

By the close of the Civil War, America's railroads had increasingly become the most popular means of transporting people, their property, and their products, both within each state and across the nation. As the popularity of rail transportation grew, so did the immense wealth and tremendous power of those companies and the rail magnates operating each line. Exacerbating monopolistic matters were corporate trusts, railroad pools, and brazen rate fixing. To protect the public and thwart the unfair pricing and discriminatory fare rates, the aggrieved parties lobbied for equitable oversight and regulation of rail rates through their state's legislature, as well as through the Federal Congress. While this led to the U.S. Senate creating a select committee in 1872 to study and report[7] back on its investigation into the subject of transportation routes between the interior and the seaboard, it wouldn't be until 15 years later that the 49th Congress enacted the Interstate Commerce Act of 1887[8]; however, it was only done *after* the U.S. Supreme Court had ruled in 1886 on states' laws regulating interstate railroads[9] as being unconstitutional.

The establishment of the regulatory act, and its new agency charged with its realization; i.e., the Interstate Commerce Commission (ICC), was quickly countered with many legal challenges brought before the courts by the railroads. This ultimately led to additional legislation[10] subsequently being passed by the U.S. Congress strengthening the protection of the public afforded by the ICC.


PUCK.
ALL FREIGHT SEEKING THE SEA BOARD MUST PASS HERE AND PAY ANY TOLLS WE DEMAND.

THE MODERN COLOSSUS OF (RAIL) ROADS.

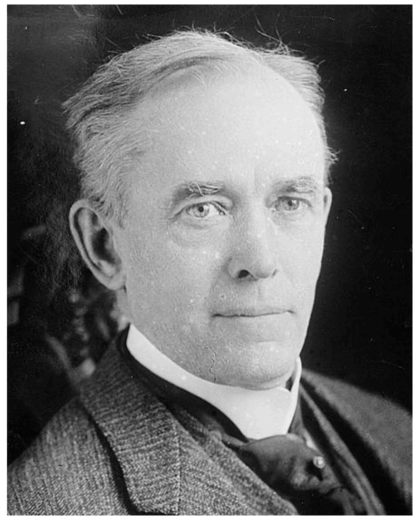
"The Modern Colossus of (Rail) Roads." Depicted in the center is William Henry Vanderbilt, President of the New York Central Railroad and several other railroads, as the most powerful tycoon in the U.S. railroad industry. Standing on his feet are two other powerful industry figures. On the left is Cyrus West Field, who controlled the New York Elevated Railroad Company. On the right is Jay Gould, who controlled the Union Pacific Railroad and other western railroads.

The sign in the foreground reads, "All freight seeking the seaboard must pass here and pay any tolls we demand." The flag over Field's elevated railway station reads, "L Road; Many nickels stolen are millions gained; by C. W. Field." Composite cartoon created from original two-page publication.

Artist: Joseph Keppler
Date: 10 December 1879
License: Public domain
Usage terms: Public domain
Source: "The Modern Colossus of (Rail) Roads".
Puck (magazine), Vol. VI, No. 44, pp. 650–651.
Credit: Joseph Keppler creator QS:P170,Q6283062, Modern Colossus of Rail Roads - Keppler 1879, marked as public domain, more details on Wikimedia Commons

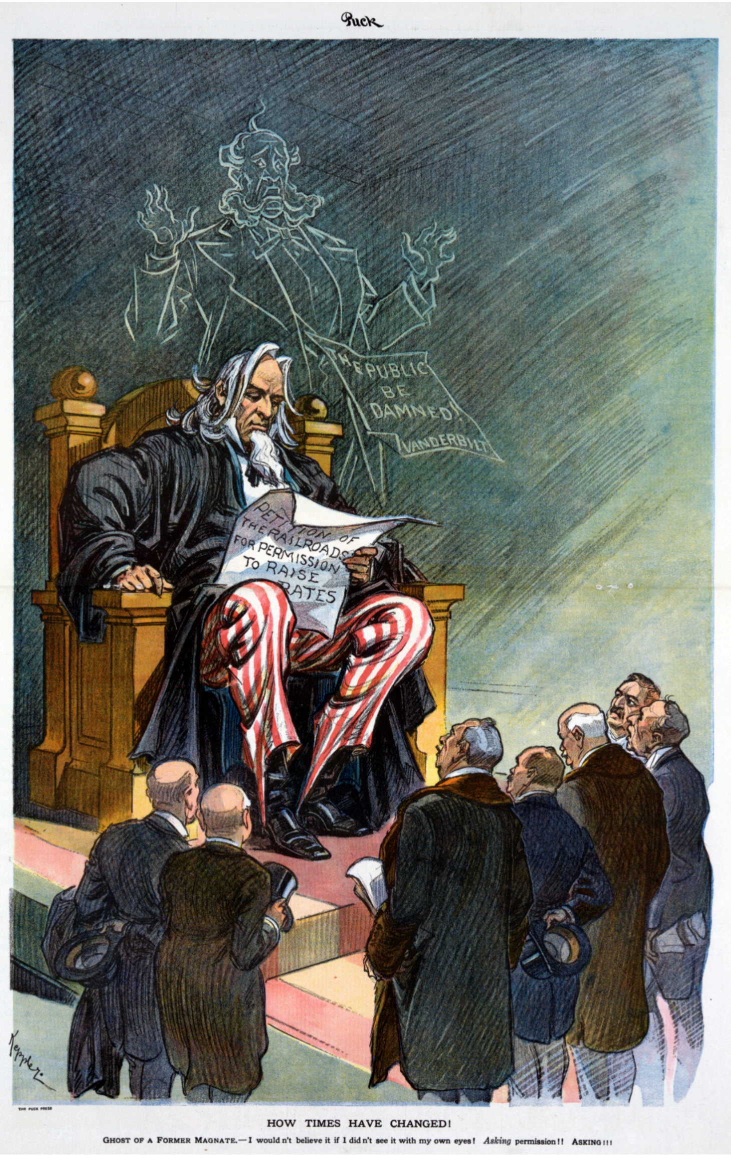
Milestone Legislation

The Valuation Act of 1913[11] allowed for an equitable means to establish transportation rates based on a nationwide, thorough assessment conducted for each and every railroad. This very detailed and ambitious audit was carried out by the ICC's new office of the Division of Valuation, also known as the Bureau of Valuation. One of the Bureau's most lasting legacies that has been, and continues to be used by countless land surveyors across the United States for more than 100 years, has been the "*Right-of-Way and Track Map*", more often simply referred to by land surveyors and others as Val Sheets.



The ICC's new Division of Valuation was organized on 14 April 1913 following the law's enactment a month and a half earlier. In May, its Board of Engineers was organized under its new Director, the Honorable Charles Azro Prouty.

Commissioner Prouty served on the ICC for 17 years before becoming the Bureau of Valuation's first Director. Under his leadership, the nation was broken into 5 Valuation Districts[12] (see map below) with District 1 under the leadership E. F. Wendt; District 2 led by H. M. Jones; District 3 led by W. D. Pence; District 4 led by J. S. Worley; District 5 led by R. A. Thompson. Each Valuation District had its own 3-member Advisory Committee.


PUCK
THE PUBLIC BE DAMNED! VANDERBILT
PETITION OF THE RAILROADS FOR PERMISSION TO RAISE RATES
Keppler
THE PUCK PRESS
HOW TIMES HAVE CHANGED!
GHOST OF A FORMER MAGNATE.—I would n't believe it if I did n't see it with my own eyes! Asking permission!! ASKING!!!

Caption: "HOW TIMES HAVE CHANGED! GHOST OF A FORMER MAGNATE - I wouldn't believe it if I didn't see it with my own eyes! *Asking* permission!! Asking!!!"

A 1914 cartoon shows railroad companies asking the ICC (depicted as Uncle Sam) for permission to raise rates, while the ghost of a horrified William Henry Vanderbilt looks on.

Artist: Udo Keppler (a/k/a, Joseph Keppler, Jr.)
Date: 1914-03-07 (One year and 6 days after the enactment of the Valuation Act of 1913)
License: Public domain
Usage terms: Public domain
Credit: This image is available from the United States Library of Congress's Prints and Photographs division under the digital ID ppmsca.28030.This tag does not indicate the copyright status of the attached work. A normal copyright tag is still required. See Commons: Licensing for more information.

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[7] "Report of the Select Committee on Transportation-Routes to the Seaboard", With Appendix and Evidence, By United States. Congress. Senate. Select Committee on Transportation-Routes to the Seaboard, William Windom · 1874; Google Books: https://www.google.com/books/edition/Report_of_the_Select_Committee_On_Transp/mxwrkQlsUT4C?hl=en&gbpv=0

[8] Interstate Commerce Act (1887) - Approved on February 4, 1887, the Interstate Commerce Act created an Interstate Commerce Commission to oversee the conduct of the railroad industry. With this act, the railroads became the first industry subject to Federal regulation. NARA link: https://www.archives.gov/milestone-documents/interstate-commerce-act

[9] Wabash, St. Louis & Pacific Railway Company v. Illinois, 118 U.S. 557 (1886), also known as the Wabash Case. This Supreme Court decision severely limited the rights of states to regulate interstate commerce leading to the creation of the Interstate Commerce Commission the following year. JUSTIA link: https://supreme.justia.com/cases/federal/us/118/557/

[10] One of the most significant measures past by the U.S. Congress after the establishment of the ICC was the Sherman Anti-Trust Act (1890) which was approved July 2, 1890, The Sherman Anti-Trust Act was the first Federal act that outlawed monopolistic business practices including those that related to the railroads, NARA link: https://www.archives.gov/milestone-documents/sherman-anti-trust-act. Amendments to the Interstate Commerce Act included the 1903 Elkins Act and the 1906 Heburn Act, https://supreme.justia.com/cases/federal/us/118/557/. While the Mann-Elkins Act in 1910 expanded the ICC's powers to regulate emergent tele-technologies and to mitigate rate discrimination between short and long hauls, the special court experiment ultimately failed, JSTOR link: https://www.jstor.org/stable/1883490

[11] Establishing fair rates based upon fair values, what some have referred to as the fair value doctrine, required determination of each railroad's real property, assets, and a reasonable rate of return for its investors. See related discussion: Miranti, Jr., Paul J. (1990). "Measurement and Organizational Effectiveness: The ICC and Accounting-Based Regulation, 1887-1940" (PDF). Business and Economic History. Second Series. Wilmington, DE: The Business History Conference. 19: 183–192. ISSN 0894-6825 PDF link: https://www.thebhc.org/sites/default/files/beh/BEHprint/v019/p0183-p0192.pdf. Also, see 62nd Congress, Session III., Chapter 92 (1913) 37 Stat. 701 (Pub. Law 62-400) PDF - https://govtrackus.s3.amazonaws.com/legislink/pdf/stat/37/STATUTE-37-Pg701.pdf

[12] Printed page 150, (PDF page 163/498), "National Association of Railway Commissioners - Proceedings of the 26th Annual Convention Held at Washington, D.C., November 17-20, 1914". This is a good general reference for getting a sense of the enormity of the task that had just been undertaken. Google book link: https://www.google.com/books/edition/Proceedings_of_the_Annual_Convention/qsIpAAAAYAAJ?hl=en&gbpv=0

The Bureau's Engineering Section

While the carriers were to prepare the drawings and to submit them to the Bureau of Valuation, the government had its own field corps sent to measure the nation's railroads. The organization and duties of the disparate field crews of the Engineering Section's Roadway Branch were spelled out in the Instructions[13] for the government's surveyors.

Interstate Commerce Commission
Bureau of Valuation - Engineering Section
FIELD CORPS ORGANIZATION

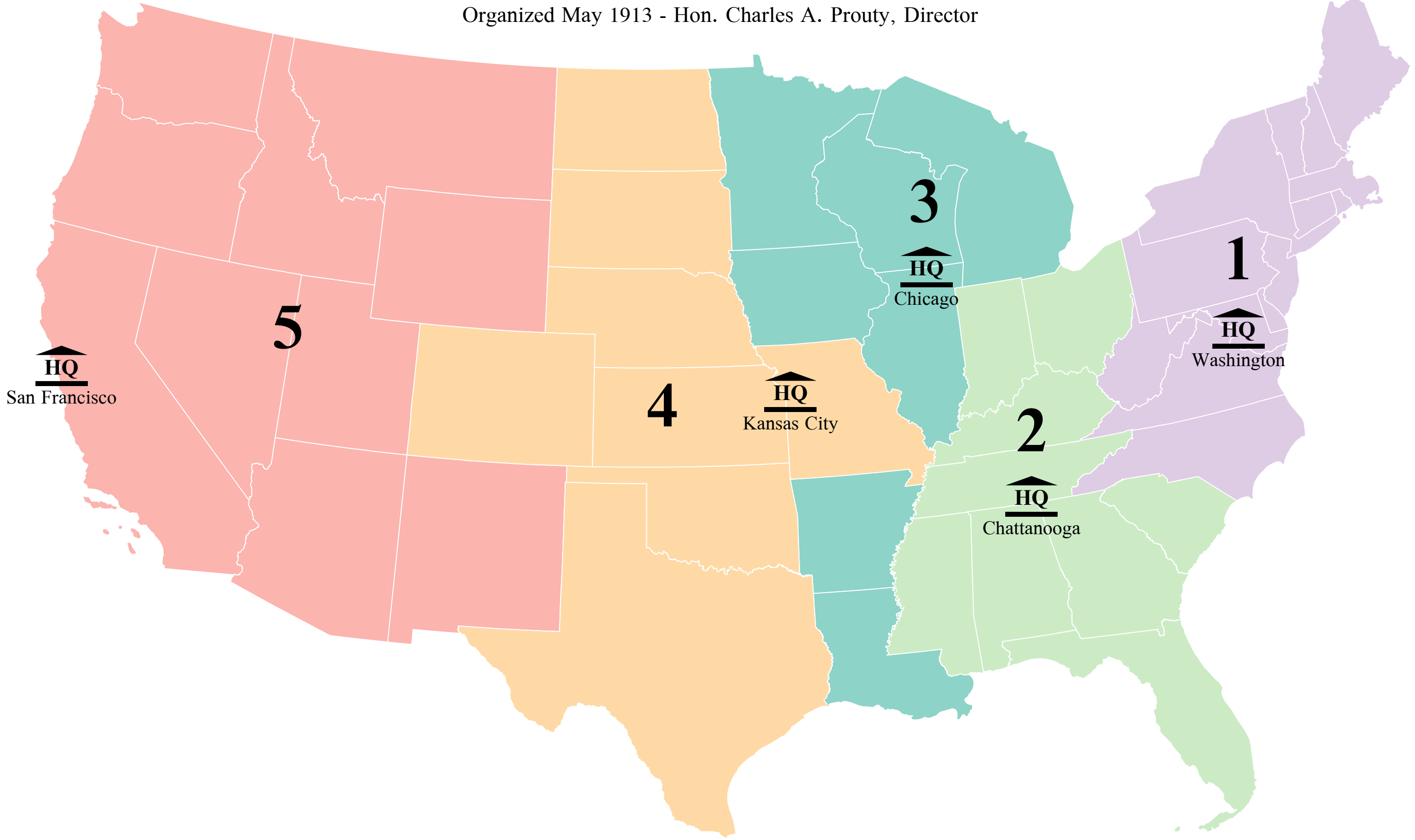
Field Engineer
  Roadway Party
    Assistant Field Engineer
      Chaining Group
        Recorder in Charge
        Head Chainman
        Rear Chainman
      Cross Section Group
        Instrumentman in Charge
        Rodman
        Tapeman
      Computing Group
        Computer 1
        Computer 2

Calais Branch Base Line

Insofar as the Chaining Group's instructions to accurately chain with a steel tape[14], item 25. Base Line, applies to Maine Central's Calais Branch, the recorded lengths of the base line would have been defined by the single track, midway between the rails, if there hadn't already been an established baseline. The base line's concrete monuments indicated on the val sheets at every P.C., P.C.C., and P.T. were most likely not set by the Bureau's surveyors because they're never mentioned in the instructions.

It might be presumed that MEC's own engineering department set these centerline monuments sometime after MEC had acquired[15] the Washington County Railroad Company[16] and obviously prior to map submissions dated June 30, 1916 to the Bureau. However, additional research will be required in order to determine if these centerline monuments had been placed by the Washington County Railroad Company or Maine Central Railroad Company. Regardless of which carrier actually set these baseline monuments, surveyors doing boundary work shouldn't confuse the baseline, with its simple tangents and arcs depicted on the val sheets, as being equivalent to the centerline of the physical tracks as they're laid out with spirals and super-elevations specifically designed to accommodate intended travel speeds. The monuments are (or in this case, were) the best evidence of the centerline of the property.

VALUATION DISTRICTS
5-member Board of Engineers Appointed by the Commission
Organized May 1913 - Hon. Charles A. Prouty, Director



Instructions to Field Parties

The Bureau of Valuation's surveyors were instructed to locate, number and note all mileposts. They were to note station and plus for signposts, or otherwise, marking civil boundaries. "The differences, if any exist, between Government chaining and the stationing of the carrier must not be unduly accumulated. At points where the carrier's station location is definitively established, the differences, where material, shall be recorded and the carrier's station taken for continuing the chaining."[17]

The instruction to the Bureau's surveyors was for them to verify the alignment shown of the right of way and track maps or profiles a general way, and that the plus of approximate ends of curves recorded in chaining notes. All structures shall be located by station and plus on the base line.

Mapping Specifications

The Right-of-Way and Track Map is one of three general classes of drawings specified in the ICC's First Issue of its Valuation Order No. 1, "*Specifications for Maps and Profiles*", dated 12 January 1914, with an effective dated of 1 February[18]. The other two classes of drawings were Profiles and Station Maps. The third class of drawings, Station maps, were needed in order to fully detail the complexities of railway stations. The ICC's Valuation Order No. 1 states that every carrier prepare and furnish to the Commission complete maps and profiles of its property; however, noting that "*it is not the intent of the Commission to require unnecessary new drawings when existing drawings are deemed by the Commission to be acceptable.*"

The specifications given in Valuation Order No. 1 required the Right-of-Way and Track Maps shall be a true horizontal projection, drawn in ink on drafting cloth (linen) sheets measuring 24 by 56 inches. Fixed scales, standard symbols and lettering are also specified. Orientation shall be to true north; parenthetically, "*as nearly as can be ascertained from existing records.*"

Using Val Sheet Data

The data that was so thoroughly and well documented as a result the Valuation Act of 1913 included the Right-of-Way and Track Maps. In many ways, I have regarded these maps much like an accurate boundary survey of property that may have only been described in its operative instrument as something akin to an abutters description. In the case of the deeds into the Washington County Railroad Company, the typical description would be simply described as a 4-rod wide strip included in the location filed with County Commissioners[19] extending from one abutter to another abutter, and measuring an approximate length; either expressed, or implied by stationing, and its approximate quantity expressed often to the hundredth of an acre.

For the purposes of general study and experimentation, I applied the val sheet data and my survey data in a least squares adjustment. The survey data of the recovered concrete monuments were held as control points. The distances of tangents and long chords were calculated from stationing and curve data. Angles were calculated from bearings[20]. After some trial and error, the following default standard error estimates worked decently for the baseline running from Marion Township to Ayers Junction and from Washington Junction to Whitneyville.

- Distances: 0.15 ft + 50 ppm
- Angles: 6 minutes with 0.1 ft setup error
- Control: 0.05 ft (for both x and y)

Results from this approach minimally adjusted the baseline's geometry; however, positional tolerances create greater uncertainty as the distance between control points increase, so use caution in your own computational exercises.

---

[13] "Instructions for Field Work of the Roadway Branch of the Engineering Section of the Division of Valuation, Interstate Commerce Commission" Google book link: https://www.google.com/books/edition/Instructions_for_Field_Work_of_the_Roadw/kLU_AAAAYAAJ?hl=en&gbpv=0

[14] Ibid, printed page 9, PDF page 14/27

[15] "Private and Special Laws of the State of Maine As Passed by the 75th Legislature 1911", Chapter 70, An Act authorizing the merger of the Somerset Railway Company, Washington County Railway Company and Sebasticook and Moosehead Railroad Company with the Maine Central Railroad Company, mainelegislature.org link: http://lldc.mainelegislature.org/Open/Laws/1911/1911_PS_c070.pdf, and Maine Central 1911 Annual Report, printed page 12, PDF page 14/40, digitalmaine.com link: https://digitalmaine.com/cgi/viewcontent.cgi?article=1076&context=larrabee_railroad_ephemera. Also this: "*The Maine Central Railroad officially absorbed the Washington County Railway Company in 1911*", Page 196, "The Sunrise Route" A History of the Railroads of Washington County, Maine" by Michael W. Zimmermann, ISBN 0-941216-26-8, Cay-Bel Publishing Company, a delightful and fun read.

[16] See Charter granted to the Washington County Railroad Company effective 7 March 1893 "Acts and Resolves of the 66th Legislature of the State of Maine", Private and Special Laws, Chapter 454, printed page 705, PDF page 384/867, Google book link: https://www.google.com/books/edition/Acts_and_Resolves_Passed_by_the_Legislat/RDk4AAAAIAAJ?hl=en&gbpv=1

[17] N.B. This portion of the instruction's item 25. Base Line didn't elaborate as to what exactly *unduly accumulated* meant, nor what might be constituted as a *material* difference. Moreover, it remains unclear if any of the station and plus data accurately measured and recorded by the Bureau's surveyors is reflected on the right of way and track maps. Without additional research, it seems more likely than not, that the data gathered by the Bureau's surveyors served chiefly as an independent verification of what the carriers produced on their maps.

[18] "Specifications for Maps and Profiles as Prescribed by the Interstate Commerce Commission in Accordance with Section 19a of the Act to Regulate Commerce", Dated 12 January 1914, First Issue, Effective on February 1, 1914; Google book link: https://www.google.com/books/edition/_/Ch9HAQAAIAAJ?hl=en&sa=X&ved=2ahUKEwjX1bak-eX8AhVxFlkFHZPgC_8Q7_IDegQIARAE - This was the only version of Valuation Order No. 1 that I've been able to find online noting that the Appendices A and B weren't fully scanned. This particular PDF includes the amendment; i.e., the Valuation Act of 1913. In addition, this PDF also includes the Second Issue of Map Specs (1933); Valuation Order No.3 and several of its supplements and revisions; Valuation Order No. 4 (1914); Valuation Order No. 5 (1914); Valuation Order No. 6 (1914); Valuation Order No. 7 (1914).

[19] N.B. In my research to date including the Washington County and Hancock County Commissioners records, and the Annual Reports of the Maine Railroad Commissioners, I have only found the carrier's petitions describing their intended location of the baseline , or in subsequent petitions of its amendments, as distinguished from an as-built location. This of course makes sense as for the most part, the conveyances were written prior to any construction.

[20] N.B. You will discover mistakes, either in stationing (rare) or in bearings. Also note that the *Highway* (100 feet of arc) method was used in the definition of Degree of Curve as shown on the Val Sheets.

Appendix C - Bid Results

The winning bid for the Calais Branch Corridor Rehabilitation project was awarded to Vaughn Thibodeau & Sons of Bangor in May of 2008. The company was by then owned by David Lakeman (Sr.) and Lynn Lakeman, after the Lakemans had acquired the Thibodeau family's business about 7 months earlier.

The global steel market at the time[21] was such that the expected sale of the recycled metal from the rails, fish plates, tie plates and anchors, along with the reselling of salvaged railroad ties, would result in a credit being issued back to the State of Maine for $2.7 million. But that's not what happened. Instead, the company Vaughn Thibodeau & Sons of Bangor defaulted on several loans from Machias Savings Bank. Foreclosure and auction of their assets followed in June 2010[22]. Because the State had, as required by law, bonded the project, the bonding company found another contractor to finish the project of converting the old railway into a multiuse recreational trail.

The 85-mile rehabilitated rail corridor, now known as the Down East Sunrise Trail, (DEST) was finally completed after 2 years of construction and officially opened on September 21, 2010. Rather than the State receiving $2.7 million, it ended up paying about $5 million[23].

Six years later, the extension connecting Washington Junction to High Street[24] was built and finished.

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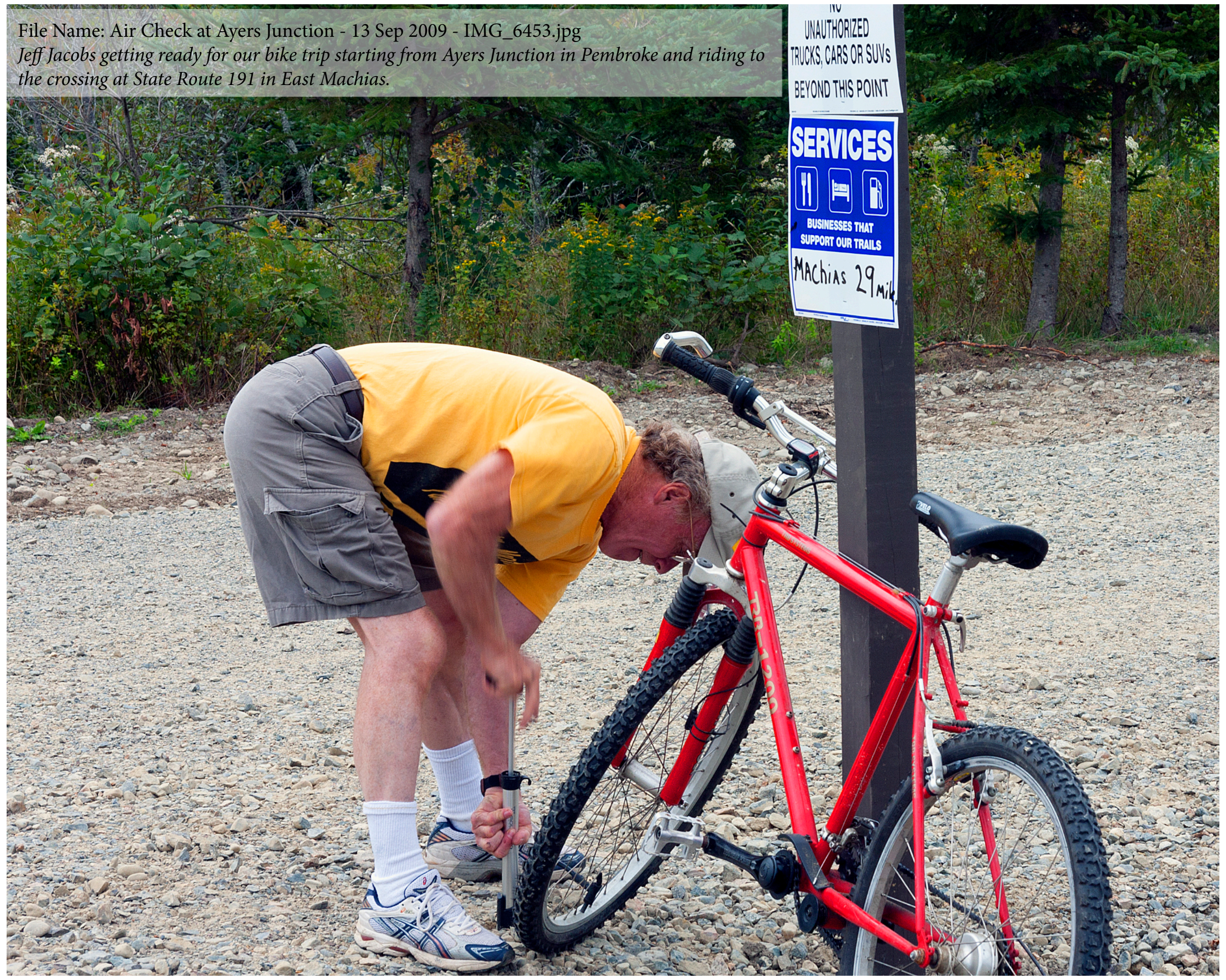
[21] Lauren Duensing, *Metals industry 2008 in review* - https://www.modernmetals.com/item/7796-metals-industry-2008-in-review.html

[22] Ellsworth American, *Down East Sunrise Trail Work to Continue Despite Contractor Auction*, https://www.ellsworthamerican.com/news/down-east-sunrise-trail-work-to-continue-despite-contractor-auction/article_18d2c1c9-bdc7-5278-a13d-f6b93d9d0a9e.html

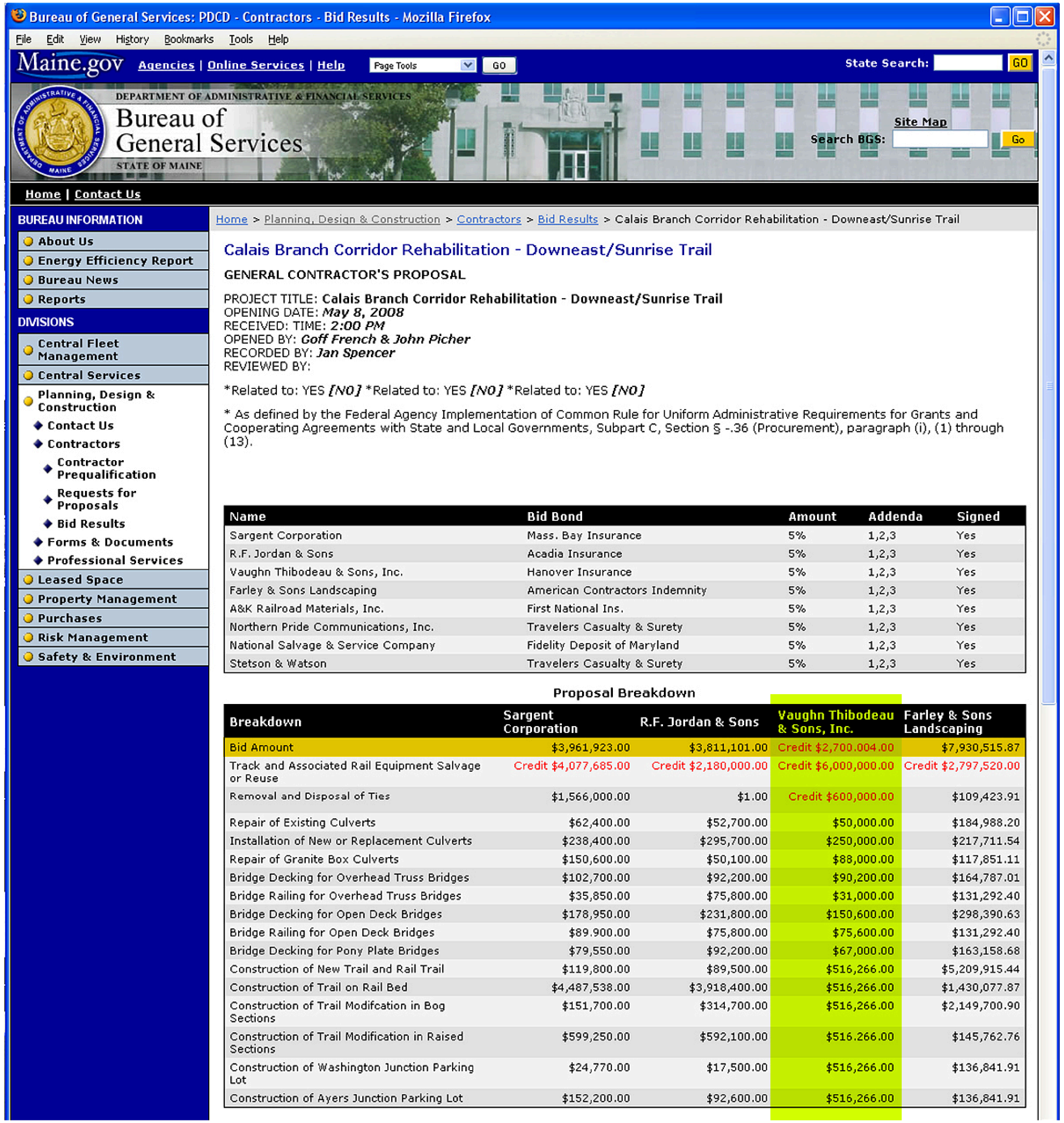
[23] Bill Trotter, Bangor Daily News, *Completed Sunrise Trail officially opened*, https://www.bangordailynews.com/2010/09/21/news/completed-sunrise-trail-officially-opened/

[24] David Roza, Ellsworth American, *Down East Sunrise Trail's new stretch opens; ATVers rejoice*, https://www.ellsworthamerican.com/news/down-east-sunrise-trail-s-new-stretch-opens-atvers-rejoice/article_91da14d9-f074-5be9-90b6-bf0ed62ad329.html


File Name: Air Check at Ayers Junction - 13 Sep 2009 - IMG_6453.jpg

Jeff Jacobs getting ready for our bike trip starting from Ayers Junction in Pembroke and riding to the crossing at State Route 191 in East Machias.

NO
UNAUTHORIZED
TRUCKS, CARS OR SUVs
BEYOND THIS POINT
SERVICES
BUSINESSES THAT SUPPORT OUR TRAILS
Machias 29 mi


Bureau of General Services: PDCD - Contractors - Bid Results - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Maine.gov
Agencies | Online Services | Help
Page Tools
GO
State Search:
GO
DEPARTMENT OF ADMINISTRATIVE & FINANCIAL SERVICES
Bureau of General Services
STATE OF MAINE
Site Map
Search BGS:
Go
Home | Contact Us
BUREAU INFORMATION
About Us
Energy Efficiency Report
Bureau News
Reports
DIVISIONS
Central Fleet Management
Central Services
Planning, Design & Construction
Contact Us
Contractors
Contractor Prequalification
Requests for Proposals
Bid Results
Forms & Documents
Professional Services
Leased Space
Property Management
Purchases
Risk Management
Safety & Environment
Home > Planning, Design & Construction > Contractors > Bid Results > Calais Branch Corridor Rehabilitation - Downeast/Sunrise Trail

Calais Branch Corridor Rehabilitation - Downeast/Sunrise Trail

GENERAL CONTRACTOR'S PROPOSAL

PROJECT TITLE: **Calais Branch Corridor Rehabilitation - Downeast/Sunrise Trail**
OPENING DATE: ***May 8, 2008***
RECEIVED: TIME: ***2:00 PM***
OPENED BY: ***Goff French & John Picher***
RECORDED BY: ***Jan Spencer***
REVIEWED BY:

*Related to: YES ***[NO]*** *Related to: YES ***[NO]*** *Related to: YES ***[NO]***

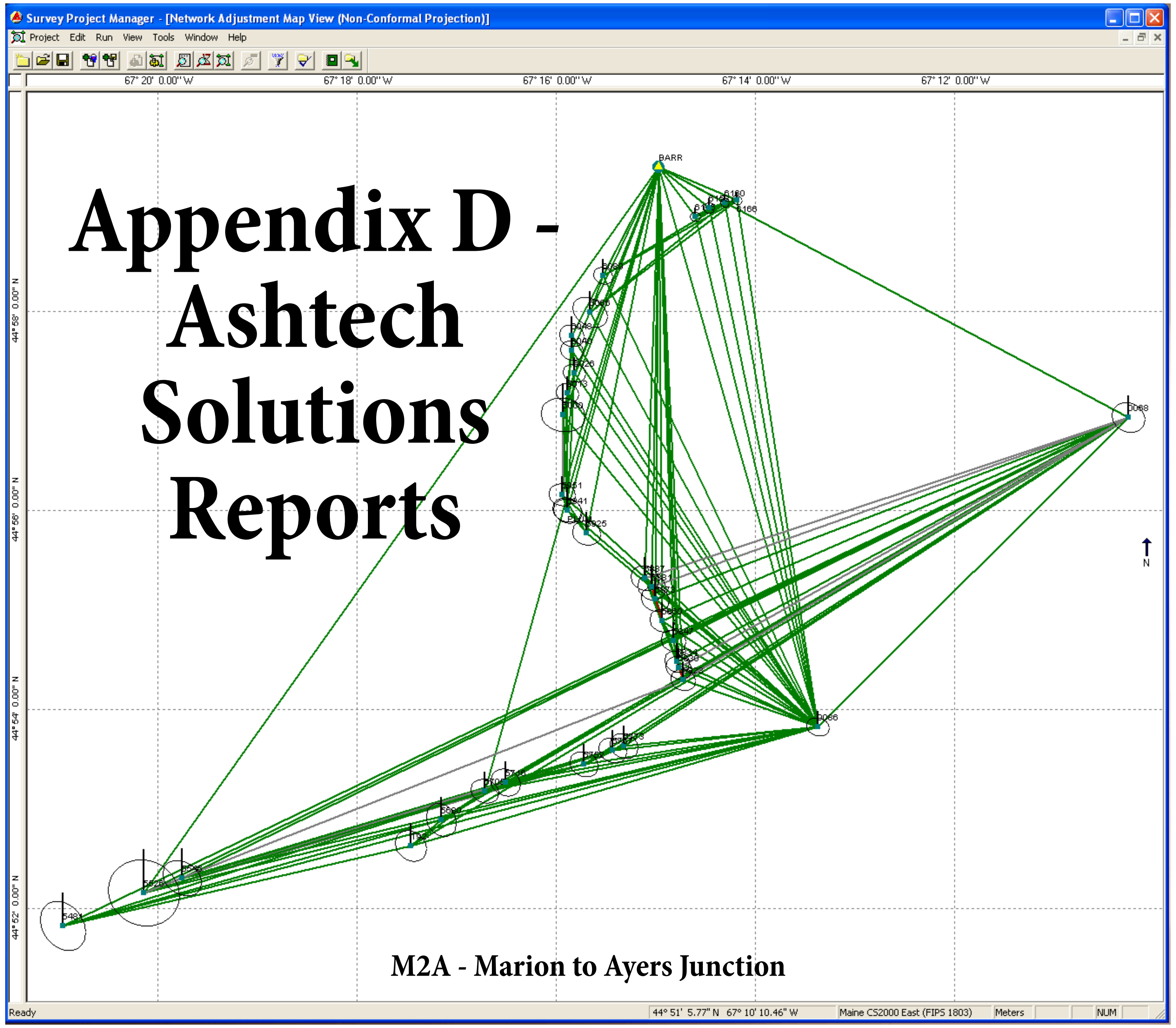
* As defined by the Federal Agency Implementation of Common Rule for Uniform Administrative Requirements for Grants and Cooperating Agreements with State and Local Governments, Subpart C, Section § -.36 (Procurement), paragraph (i), (1) through (13).

Name	Bid Bond	Amount	Addenda	Signed
Sargent Corporation	Mass. Bay Insurance	5%	1,2,3	Yes
R.F. Jordan & Sons	Acadia Insurance	5%	1,2,3	Yes
Vaughn Thibodeau & Sons, Inc.	Hanover Insurance	5%	1,2,3	Yes
Farley & Sons Landscaping	American Contractors Indemnity	5%	1,2,3	Yes
A&K Railroad Materials, Inc.	First National Ins.	5%	1,2,3	Yes
Northern Pride Communications, Inc.	Travelers Casualty & Surety	5%	1,2,3	Yes
National Salvage & Service Company	Fidelity Deposit of Maryland	5%	1,2,3	Yes
Stetson & Watson	Travelers Casualty & Surety	5%	1,2,3	Yes

Proposal Breakdown

Breakdown	Sargent Corporation	R.F. Jordan & Sons	Vaughn Thibodeau & Sons, Inc.	Farley & Sons Landscaping
Bid Amount	$3,961,923.00	$3,811,101.00	Credit $2,700.004.00	$7,930,515.87
Track and Associated Rail Equipment Salvage or Reuse	Credit $4,077,685.00	Credit $2,180,000.00	Credit $6,000,000.00	Credit $2,797,520.00
Removal and Disposal of Ties	$1,566,000.00	$1.00	Credit $600,000.00	$109,423.91
Repair of Existing Culverts	$62,400.00	$52,700.00	$50,000.00	$184,988.20
Installation of New or Replacement Culverts	$238,400.00	$295,700.00	$250,000.00	$217,711.54
Repair of Granite Box Culverts	$150,600.00	$50,100.00	$88,000.00	$117,851.11
Bridge Decking for Overhead Truss Bridges	$102,700.00	$92,200.00	$90,200.00	$164,787.01
Bridge Railing for Overhead Truss Bridges	$35,850.00	$75,800.00	$31,000.00	$131,292.40
Bridge Decking for Open Deck Bridges	$178,950.00	$231,800.00	$150,600.00	$298,390.63
Bridge Railing for Open Deck Bridges	$89.900.00	$75,800.00	$75,600.00	$131,292.40
Bridge Decking for Pony Plate Bridges	$79,550.00	$92,200.00	$67,000.00	$163,158.68
Construction of New Trail and Rail Trail	$119,800.00	$89,500.00	$516,266.00	$5,209,915.44
Construction of Trail on Rail Bed	$4,487,538.00	$3,918,400.00	$516,266.00	$1,430,077.87
Construction of Trail Modifcation in Bog Sections	$151,700.00	$314,700.00	$516,266.00	$2,149,700.90
Construction of Trail Modification in Raised Sections	$599,250.00	$592,100.00	$516.266.00	$145,762.76
Construction of Washington Junction Parking Lot	$24,770.00	$17,500.00	$516,266.00	$136,841.91
Construction of Ayers Junction Parking Lot	$152,200.00	$92,600.00	$516,266.00	$136,841.91

Appendix D - Ashtech Solutions Reports


Survey Project Manager - [Network Adjustment Map View (Non-Conformal Projection)]
Project
Edit
Run
View
Tools
Window
Help
67° 20' 0.00" W
67° 18' 0.00" W
67° 16' 0.00" W
67° 14' 0.00" W
67° 12' 0.00" W
44° 58' 0.00" N
44° 56' 0.00" N
44° 54' 0.00" N
44° 52' 0.00" N
BARR
6068
N
Ready
44° 51' 5.77" N 67° 10' 10.46" W
Maine CS2000 East (FIPS 1803)
Meters
NUM

M2A - Marion to Ayers Junction

Geographic Site Positions - NAD83(2011) Epoch 2010.00

Marion to Ayers Jct.
Processed in Ashtech Solutions v2.70

Horizontal Coordinate System: North American 1983-CONUS
Height System: Ellips. Ht.
Desired Horizontal Accuracy: 0.030m + 1ppm
Desired Vertical Accuracy: 0.060m + 2ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 12/19/25
Project file: M2A - 20251219.spr
Orbits: Precise, Repro3

	Site ID	Site Descriptor	Position	95% Error	Fix Status	Position Status
1	**BARR**		Lat. 44° 59′ 27.26319″ N Lon. 67° 14′ 58.18032″ W Elv. 37.887	0.000 0.000 0.000	Fixed Fixed Fixed	**Adjusted**
2	**6145**		Lat. 44° 58′ 57.16713″ N Lon. 67° 14′ 36.24483″ W Elv. 11.100	0.002 0.002 0.004		**Adjusted**
3	**0086**		Lat. 44° 53′ 49.34706″ N Lon. 67° 13′ 22.64353″ W Elv. 3.454	0.004 0.005 0.007		**Adjusted**
4	**6160**		Lat. 44° 59′ 05.77304″ N Lon. 67° 14′ 18.77093″ W Elv. 7.103	0.002 0.002 0.003		**Adjusted**
5	**6166**		Lat. 44° 59′ 06.88628″ N Lon. 67° 14′ 11.42970″ W Elv. 6.965	0.002 0.002 0.003		**Adjusted**
6	**6089**		Lat. 44° 58′ 21.54088″ N Lon. 67° 15′ 32.11485″ W Elv. 19.242	0.004 0.004 0.007		**Adjusted**
7	**6153**		Lat. 44° 59′ 02.46883″ N Lon. 67° 14′ 27.91502″ W Elv. 8.387	0.002 0.002 0.004		**Adjusted**
8	**6066**		Lat. 44° 57′ 59.60972″ N Lon. 67° 15′ 39.67977″ W Elv. 19.534	0.006 0.007 0.009		**Adjusted**
9	**5925**		Lat. 44° 55′ 46.17298″ N Lon. 67° 15′ 42.06005″ W Elv. 19.769	0.005 0.006 0.009		**Adjusted**
10	**6013**		Lat. 44° 57′ 10.87631″ N Lon. 67° 15′ 53.47518″ W Elv. 15.990	0.004 0.005 0.007		**Adjusted**
11	**6026**		Lat. 44° 57′ 22.94912″ N Lon. 67° 15′ 49.20514″ W Elv. 15.414	0.004 0.005 0.007		**Adjusted**
12	**6000**		Lat. 44° 56′ 57.68145″ N Lon. 67° 15′ 55.87648″ W Elv. 17.665	0.007 0.009 0.013		**Adjusted**
13	**6048**		Lat. 44° 57′ 45.17895″ N Lon. 67° 15′ 50.80233″ W Elv. 14.266	0.005 0.005 0.008		**Adjusted**
14	**5951**		Lat. 44° 56′ 09.22546″ N Lon. 67° 15′ 56.59655″ W Elv. 20.633	0.005 0.006 0.008		**Adjusted**
15	**5941**		Lat. 44° 56′ 00.19563″ N Lon. 67° 15′ 53.52796″ W Elv. 21.706	0.005 0.006 0.008		**Adjusted**
16	**PLUM**		Lat. 44° 56′ 00.19948″ N Lon. 67° 15′ 53.52258″ W Elv. 21.731	0.005 0.006 0.010		**Adjusted**
17	**6040**		Lat. 44° 57′ 36.51528″ N Lon. 67° 15′ 50.93821″ W Elv. 16.995	0.004 0.005 0.007		**Adjusted**
18	**5847**		Lat. 44° 54′ 41.40238″ N Lon. 67° 14′ 49.40764″ W	0.005 0.005		**Adjusted**

```
                                     Elv.            5.685      0.008

19  5873                             Lat.  44° 55’ 06.46116” N   0.005          Adjusted
                                     Lon.  67° 15’ 00.26871” W   0.006
                                     Elv.           12.525      0.009

20  5823                             Lat.  44° 54’ 18.03340” N   0.004          Adjusted
                                     Lon.  67° 14’ 43.72266” W   0.005
                                     Elv.            3.956      0.007

21  5860                             Lat.  44° 54’ 53.48746” N   0.005          Adjusted
                                     Lon.  67° 14’ 56.37924” W   0.005
                                     Elv.            8.388      0.008

22  5834                             Lat.  44° 54’ 28.85139” N   0.005          Adjusted
                                     Lon.  67° 14’ 47.32699” W   0.005
                                     Elv.            5.367      0.008

23  5881                             Lat.  44° 55’ 13.68738” N   0.006          Adjusted
                                     Lon.  67° 15’ 02.41400” W   0.006
                                     Elv.           14.758      0.009

24  5705                             Lat.  44° 53’ 10.56429” N   0.005          Adjusted
                                     Lon.  67° 16’ 43.25104” W   0.006
                                     Elv.            2.140      0.008

25  5830                             Lat.  44° 54’ 24.93517” N   0.005          Adjusted
                                     Lon.  67° 14’ 46.26870” W   0.005
                                     Elv.            5.508      0.008

26  5887                             Lat.  44° 55’ 18.98280” N   0.005          Adjusted
                                     Lon.  67° 15’ 06.75155” W   0.006
                                     Elv.           17.248      0.009

27  5773                             Lat.  44° 53’ 38.19220” N   0.005          Adjusted
                                     Lon.  67° 15’ 19.33278” W   0.006
                                     Elv.            2.612      0.009

28  5752                             Lat.  44° 53’ 26.96656” N   0.005          Adjusted
                                     Lon.  67° 15’ 43.72697” W   0.006
                                     Elv.            5.781      0.009

29  5767                             Lat.  44° 53’ 35.60818” N   0.005          Adjusted
                                     Lon.  67° 15’ 26.14667” W   0.006
                                     Elv.            4.092      0.009

30  5546                  RRFNDMON   Lat.    44° 52’ 18.48328” N 0.007          Adjusted
                                     Lon.  67° 19’ 45.70678” W   0.008
                                     Elv.           27.596      0.012

31  5526                  RRFNDMON   Lat.    44° 52’ 09.27125” N 0.014          Adjusted
                                     Lon.  67° 20’ 08.51480” W   0.015
                                     Elv.           18.652      0.018

32  86--                             Lat.  44° 53’ 49.34701” N   0.008          Adjusted
                                     Lon.  67° 13’ 22.64382” W   0.009
                                     Elv.            3.453      0.012

33  5680                             Lat.  44° 52’ 53.28068” N   0.007          Adjusted
                                     Lon.  67° 17’ 09.29505” W   0.007
                                     Elv.            5.008      0.010

34  T92-                             Lat.  44° 52’ 37.77220” N   0.007          Adjusted
                                     Lon.  67° 17’ 27.79538” W   0.007
                                     Elv.            5.057      0.010

35  0068                             Lat.  44° 56’ 56.09396” N   0.007          Adjusted
                                     Lon.  67° 10’ 15.70397” W   0.007
                                     Elv.           -2.139      0.009

36  5481                             Lat.  44° 51’ 49.33218” N   0.011          Adjusted
                                     Lon.  67° 20’ 57.63441” W   0.010
                                     Elv.            7.942      0.014

37  5716                             Lat.  44° 53’ 16.22028” N   0.006          Adjusted
                                     Lon.  67° 16’ 30.60295” W   0.006
                                     Elv.            2.444      0.009

    Site                             Elevation
     ID        Site Descriptor          Factor

 1  BARR                             0.99999406

 2  6145                             0.99999826

 3  0086                             0.99999946

 4  6160                             0.99999889

 5  6166                             0.99999891

 6  6089                             0.99999698

 7  6153                             0.99999868

 8  6066                             0.99999694

 9  5925                             0.99999690

10  6013                             0.99999749

11  6026                             0.99999758

12  6000                             0.99999723

13  6048                             0.99999776

14  5951                             0.99999676

15  5941                             0.99999660

16  PLUM                             0.99999659

17  6040                             0.99999734

18  5847                             0.99999911

19  5873                             0.99999804

20  5823                             0.99999938

21  5860                             0.99999868

22  5834                             0.99999916

23  5881                             0.99999769

24  5705                             0.99999966

25  5830                             0.99999914

26  5887                             0.99999730

27  5773                             0.99999959
```

28	**5752**		0.99999909
29	**5767**		0.99999936
30	**5546**	**RRFNDMON**	0.99999567
31	**5526**	**RRFNDMON**	0.99999708
32	**86--**		0.99999946
33	**5680**		0.99999921
34	**T92-**		0.99999921
35	**0068**		1.00000034
36	**5481**		0.99999875
37	**5716**		0.99999962

Coordinate System Definition Summary

M2A - 20251219

Linear Units of Measure: Meters

Date: 12/19/25
Project file: M2A - 20251219.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation:
Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: North American 1983-CONUS

Reference Ellipsoid: GRS80
a = 6378137.000m
1/f = 298.257222101

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name:

Projection Type:

Zone Name:

Zone Parameters:
Longitude of Central Meridian = 000°00'00.00000"W

Observation Information

M2A - 20251219

Time System: UTC
Linear Units of Measure: Meters
Date: 12/19/25
Project file: M2A - 20251219.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**5481**	0.000	0.000	2.000	11:33:00 AM	10:05:10 PM	B2042A08.234
2	**BARR**	0.000	0.000	2.000	11:33:50 AM	6:54:40 PM	B4395A08.243
3	**6145**	0.000	0.000	2.000	4:19:40 PM	6:20:00 PM	B2131A08.243
4	**0086**	0.000	0.000	2.000	11:57:00 AM	7:25:40 PM	B8000A08.243
5	**6160**	0.000	0.000	2.000	11:09:30 AM	7:02:30 PM	B2042B08.243
6	**6166**	0.000	0.000	2.000	10:55:10 AM	7:07:20 PM	B5260A08.243
7	**6089**	0.000	0.000	2.000	1:50:50 PM	3:01:00 PM	B2128A08.243
8	**6153**	0.000	0.000	2.000	4:35:30 PM	6:31:30 PM	B2128B08.243
9	**6066**	0.000	0.000	2.000	1:17:50 PM	3:15:20 PM	B0004A08.243
10	**5925**	0.000	0.000	2.000	11:41:40 AM	1:31:00 PM	B2042A08.242
11	**6013**	0.000	0.000	2.000	3:16:00 PM	8:56:40 PM	B5260A08.242
12	**6026**	0.000	0.000	2.000	2:54:30 PM	9:05:10 PM	B4395A08.242
13	**0086**	0.000	0.000	2.000	1:08:10 PM	10:07:50 PM	B8000B08.242
14	**BARR**	0.000	0.000	2.000	10:14:40 AM	10:28:10 PM	B2131A08.242
15	**6000**	0.000	0.000	2.000	2:24:00 PM	6:37:30 PM	B2128A08.242
16	**6048**	0.000	0.000	2.000	7:56:30 PM	9:45:40 PM	B2128B08.242
17	**5951**	0.000	0.000	2.000	12:24:10 PM	4:18:50 PM	B0004A08.242
18	**5941**	0.000	0.000	2.000	12:03:50 PM	4:27:50 PM	B2073A08.242
19	**PLUM**	0.000	0.000	2.000	5:03:30 PM	6:03:30 PM	B2073B08.242
20	**6040**	0.000	0.000	2.000	7:31:40 PM	9:38:40 PM	B2073C08.242
21	**5847**	0.000	0.000	2.000	7:32:20 PM	8:34:20 PM	B2128A08.241
22	**5873**	0.000	0.000	2.000	9:01:50 PM	10:19:50 PM	B2128B08.241
23	**5823**	0.000	0.000	2.000	1:11:50 PM	10:50:20 PM	B2073A08.241
24	**5860**	0.000	0.000	2.000	7:46:30 PM	10:29:50 PM	B0004A08.241
25	**0086**	0.000	0.000	2.000	1:24:00 PM	11:06:30 PM	B5260A08.241
26	**5526**	0.000	0.000	2.000	12:26:40 PM	6:12:40 PM	B2042A08.241
27	**5834**	0.000	0.000	2.000	7:19:00 PM	8:20:00 PM	B2042B08.241
28	**5881**	0.000	0.000	2.000	9:11:00 PM	9:39:10 PM	B2042C08.241
29	**0068**	0.000	0.000	2.000	1:37:20 PM	11:17:20 PM	B2131A08.241
30	**BARR**	0.000	0.000	2.000	1:56:30 PM	11:26:30 PM	B4395A08.241
31	**5705**	0.000	0.000	2.000	12:46:30 PM	5:33:30 PM	B8000A08.241
32	**5830**	0.000	0.000	2.000	7:05:40 PM	8:15:30 PM	B8000B08.241
33	**5887**	0.000	0.000	2.000	9:17:30 PM	10:09:40 PM	B8000C08.241
34	**0086**	0.000	0.000	2.000	1:13:10 PM	10:18:50 PM	B2131A08.235
35	**5773**	0.000	0.000	2.000	7:19:00 PM	10:00:00 PM	B2128A08.235
36	**5752**	0.000	0.000	2.000	3:54:30 PM	9:50:10 PM	B4395A08.235
37	**5705**	0.000	0.000	2.000	1:30:40 PM	9:27:30 PM	B2073A08.235
38	**5716**	0.000	0.000	2.000	2:18:30 PM	9:21:10 PM	B2042A08.235
39	**0068**	0.000	0.000	2.000	12:45:10 PM	10:30:40 PM	B5260A08.235
40	**5767**	0.000	0.000	2.000	6:20:50 PM	10:05:00 PM	B8000A08.235
41	**5546**	0.000	0.000	2.000	4:42:40 PM	9:23:00 PM	BB013A07.212
42	**5526**	0.000	0.000	2.000	5:47:40 PM	7:19:20 PM	BC880B08.235
43	**86--**	0.000	0.000	2.000	1:00:30 PM	10:16:10 PM	B2073A08.234
44	**5680**	0.000	0.000	2.000	7:22:50 PM	9:00:10 PM	B5260A08.234
45	**T92-**	0.000	0.000	2.000	7:44:50 PM	8:44:50 PM	B2131A08.234
46	**5705**	0.000	0.000	2.000	6:49:40 PM	9:38:40 PM	B8000C08.234
47	**0068**	0.000	0.000	2.000	1:27:50 PM	10:32:10 PM	B4395A08.234

Project Summary

M2A - 20251219

Project file: M2A - 20251219.spr **Date:** 12/19/25

Client Name:	
Project Name:	M2A - 20251219
Project Comments:	
Desired Horizontal Accuracy:	0.030m + 1ppm
Desired Vertical Accuracy:	0.060m + 2ppm
Confidence Level:	95% Err.
Horizontal Coordinate System:	North American 1983-CONUS
Height System:	Ellips. Ht.
Linear Units:	Meters
Number of Sites:	37
Number of Vectors:	168
Survey Company Name:	Horizon Surveying Company, Inc.

Adjustment Summary

M2A - 20251219

Project file: M2A - 20251219.spr **Date:** 12/19/25

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	1.4
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	8
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	154
Site Total:	37
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	North American 1983-CONUS
Height System:	Ellips. Ht.
Desired Horizontal Accuracy:	0.030m + 1ppm
Desired Vertical Accuracy:	0.060m + 2ppm
Confidence Level:	95% Err.

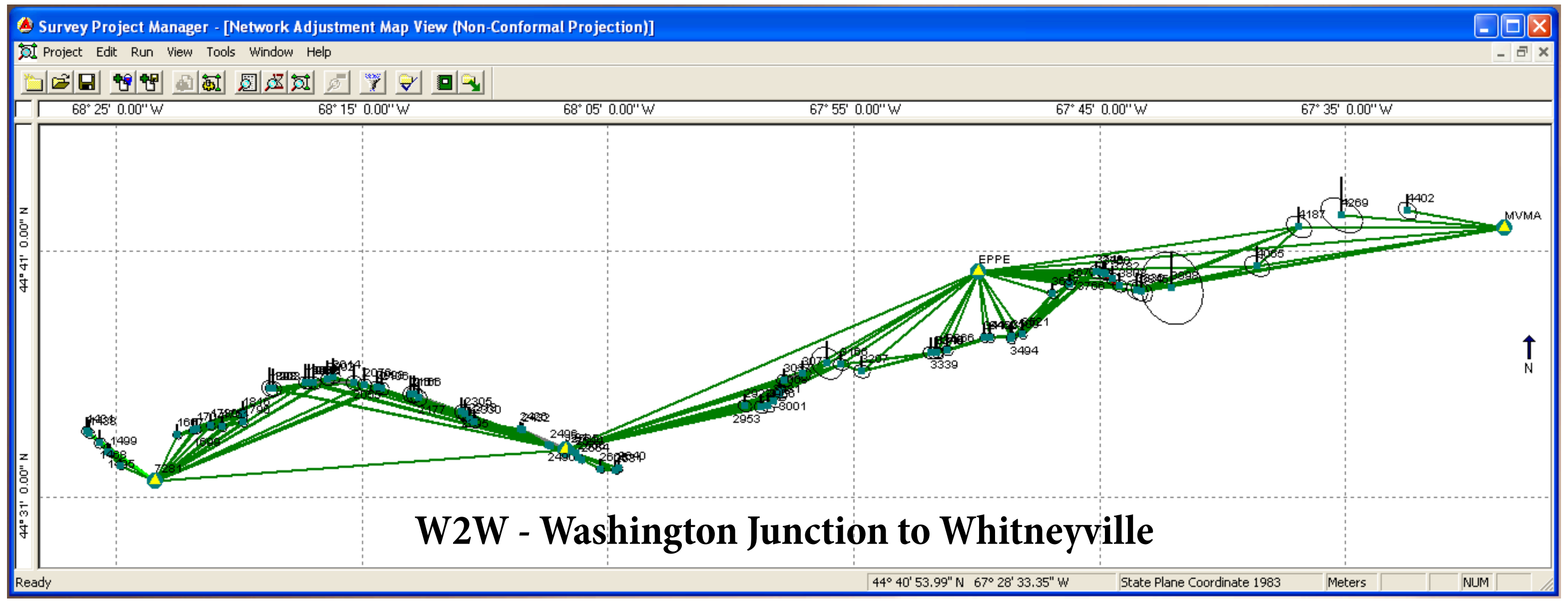
Control Site Positions

M2A - 20251219

Horizontal Coordinate System:	North American 1983-CONUS	**Date:**	12/19/25
Height System:	Ellips. Ht.	**Project file:**	M2A - 20251219.spr
Desired Horizontal Accuracy:	0.030m + 1ppm		
Desired Vertical Accuracy:	0.060m + 2ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Position	95% Error	Control Type	Fix Status
1	**BARR**		Lat. 44° 59′ 27.26319″	0.000	Hor/Ver	**Fixed**
			Lon. 67° 14′ 58.18032″	0.000		**Fixed**
			Elv. 37.887	0.000		**Fixed**

	Site ID	Control Site Descriptor	Elevation Factor
1	**BARR**		0.99999406


Survey Project Manager - [Network Adjustment Map View (Non-Conformal Projection)]
Project Edit Run View Tools Window Help
68° 25' 0.00" W
68° 15' 0.00" W
68° 05' 0.00" W
67° 55' 0.00" W
67° 45' 0.00" W
67° 35' 0.00" W
44° 41' 0.00" N
44° 31' 0.00" N
MVMA
EPPE
4187
4269
4402
4065
3494
3339
3001
2953
2498
2490
2305
2014
1499
7281
N
W2W - Washington Junction to Whitneyville
Ready
44° 40' 53.99" N 67° 28' 33.35" W
State Plane Coordinate 1983
Meters
NUM

Geographic Site Positions - NAD83(2011) Epoch 2010.00

Washington Jct. To Whitneyville
Processed in Ashtech Solutions v2.70

Horizontal Coordinate System: North American 1983-CONUS
Height System: Ellips. Ht.
Desired Horizontal Accuracy: 0.050m + 1ppm
Desired Vertical Accuracy: 0.100m + 2ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 12/16/25
Project file: W2W - 20251216.spr
Orbits: Precise, Repro3

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**MVMA**		Lat.	44° 41′ 58.47587″ N	0.000	Fixed	**Adjusted**
			Lon.	67° 28′ 33.34623″ W	0.000	Fixed	
			Elv.	-2.657	0.000	Fixed	
2	**EPPE**		Lat.	44° 40′ 09.31127″ N	0.000	Fixed	**Adjusted**
			Lon.	67° 49′ 55.37302″ W	0.000	Fixed	
			Elv.	53.679	0.000	Fixed	
3	**J-91**		Lat.	44° 32′ 57.00025″ N	0.000	Fixed	**Adjusted**
			Lon.	68° 06′ 43.00584″ W	0.000	Fixed	
			Elv.	36.423	0.000	Fixed	
4	**7281**		Lat.	44° 31′ 38.86008″ N	0.000	Fixed	**Adjusted**
			Lon.	68° 23′ 25.14592″ W	0.000	Fixed	
			Elv.	28.690	0.000	Fixed	
5	**1438**		Lat.	44° 33′ 35.95301″ N	0.006		**Adjusted**
			Lon.	68° 26′ 05.15696″ W	0.006		
			Elv.	16.009	0.015		
6	**1499**		Lat.	44° 32′ 47.53087″ N	0.004		**Adjusted**
			Lon.	68° 25′ 15.58279″ W	0.005		
			Elv.	10.348	0.010		
7	**1495**		Lat.	44° 32′ 50.88605″ N	0.004		**Adjusted**
			Lon.	68° 25′ 18.68631″ W	0.005		
			Elv.	12.457	0.011		
8	**1536**		Lat.	44° 32′ 17.31876″ N	0.004		**Adjusted**
			Lon.	68° 24′ 49.94878″ W	0.005		
			Elv.	15.414	0.008		
9	**1431**		Lat.	44° 33′ 40.30228″ N	0.006		**Adjusted**
			Lon.	68° 26′ 12.25067″ W	0.007		
			Elv.	14.041	0.016		
10	**1468**		Lat.	44° 33′ 11.81507″ N	0.006		**Adjusted**
			Lon.	68° 25′ 41.06291″ W	0.007		
			Elv.	15.089	0.014		
11	**1667**		Lat.	44° 33′ 33.51903″ N	0.005		**Adjusted**
			Lon.	68° 22′ 31.01340″ W	0.005		
			Elv.	25.185	0.012		
12	**1816**		Lat.	44° 34′ 24.52382″ N	0.006		**Adjusted**
			Lon.	68° 19′ 49.73887″ W	0.006		
			Elv.	4.404	0.014		
13	**1730**		Lat.	44° 33′ 54.41951″ N	0.005		**Adjusted**
			Lon.	68° 21′ 09.95251″ W	0.006		
			Elv.	-3.248	0.013		
14	**1963**		Lat.	44° 35′ 38.19648″ N	0.007		**Adjusted**
			Lon.	68° 17′ 17.23721″ W	0.008		
			Elv.	-1.087	0.021		
15	**1796**		Lat.	44° 34′ 04.31844″ N	0.006		**Adjusted**
			Lon.	68° 19′ 49.40921″ W	0.006		
			Elv.	8.157	0.013		
16	**1704**		Lat.	44° 33′ 46.32692″ N	0.005		**Adjusted**
			Lon.	68° 21′ 44.03509″ W	0.005		
			Elv.	8.278	0.013		
17	**1699**		Lat.	44° 33′ 45.03489″ N	0.005		**Adjusted**
			Lon.	68° 21′ 50.57503″ W	0.005		
			Elv.	10.769	0.013		
18	**1751**		Lat.	44° 33′ 51.58802″ N	0.006		**Adjusted**
			Lon.	68° 20′ 41.78475″ W	0.006		
			Elv.	3.541	0.013		
19	**2014**		Lat.	44° 35′ 52.88925″ N	0.007		**Adjusted**
			Lon.	68° 16′ 09.72103″ W	0.008		
			Elv.	-5.392	0.021		
20	**1903**		Lat.	44° 35′ 25.78537″ N	0.009		**Adjusted**
			Lon.	68° 18′ 36.72308″ W	0.009		
			Elv.	14.594	0.023		
21	**2002**		Lat.	44° 35′ 48.50368″ N	0.007		**Adjusted**
			Lon.	68° 16′ 25.09204″ W	0.008		
			Elv.	-1.554	0.021		
22	**1898**		Lat.	44° 35′ 24.23450″ N	0.009		**Adjusted**
			Lon.	68° 18′ 43.72997″ W	0.010		
			Elv.	12.513	0.023		
23	**2076**		Lat.	44° 35′ 32.44537″ N	0.008		**Adjusted**
			Lon.	68° 14′ 52.49374″ W	0.009		
			Elv.	-10.284	0.019		
24	**1976**		Lat.	44° 35′ 40.13590″ N	0.008		**Adjusted**
			Lon.	68° 16′ 59.24946″ W	0.008		
			Elv.	-4.006	0.022		
25	**2098**		Lat.	44° 35′ 28.45013″ N	0.008		**Adjusted**

		Lon.	68° 14′ 22.09598″ W	0.009	
		Elv.	-10.708	0.019	
26	**1968**	Lat.	44° 35′ 38.34701″ N	0.008	**Adjusted**
		Lon.	68° 17′ 09.73996″ W	0.008	
		Elv.	-3.683	0.022	
27	**2106**	Lat.	44° 35′ 25.27369″ N	0.008	**Adjusted**
		Lon.	68° 14′ 12.22290″ W	0.009	
		Elv.	-8.410	0.019	
28	**2055**	Lat.	44° 35′ 40.17470″ N	0.009	**Adjusted**
		Lon.	68° 15′ 18.36619″ W	0.009	
		Elv.	-4.173	0.021	
29	**2161**	Lat.	44° 35′ 12.26636″ N	0.009	**Adjusted**
		Lon.	68° 13′ 00.27213″ W	0.009	
		Elv.	-6.938	0.022	
30	**2318**	Lat.	44° 34′ 10.49699″ N	0.008	**Adjusted**
		Lon.	68° 10′ 38.08607″ W	0.009	
		Elv.	20.864	0.015	
31	**2295**	Lat.	44° 34′ 29.83023″ N	0.008	**Adjusted**
		Lon.	68° 10′ 55.47777″ W	0.009	
		Elv.	14.801	0.016	
32	**2166**	Lat.	44° 35′ 10.22820″ N	0.010	**Adjusted**
		Lon.	68° 12′ 53.66605″ W	0.010	
		Elv.	-4.456	0.021	
33	**2177**	Lat.	44° 35′ 03.55603″ N	0.009	**Adjusted**
		Lon.	68° 12′ 42.22208″ W	0.009	
		Elv.	0.331	0.021	
34	**2305**	Lat.	44° 34′ 21.92889″ N	0.008	**Adjusted**
		Lon.	68° 10′ 47.39122″ W	0.009	
		Elv.	14.679	0.016	
35	**2432**	Lat.	44° 33′ 43.75564″ N	0.003	**Adjusted**
		Lon.	68° 08′ 27.36494″ W	0.004	
		Elv.	31.959	0.008	
36	**2490**	Lat.	44° 33′ 07.91876″ N	0.002	**Adjusted**
		Lon.	68° 07′ 25.81609″ W	0.002	
		Elv.	28.982	0.004	
37	**2496**	Lat.	44° 33′ 04.89869″ N	0.002	**Adjusted**
		Lon.	68° 07′ 18.52462″ W	0.002	
		Elv.	29.654	0.004	
38	**2330**	Lat.	44° 34′ 02.34361″ N	0.007	**Adjusted**
		Lon.	68° 10′ 25.86296″ W	0.008	
		Elv.	25.680	0.014	
39	**2535**	Lat.	44° 32′ 53.12928″ N	0.002	**Adjusted**
		Lon.	68° 06′ 27.37890″ W	0.002	
		Elv.	38.828	0.003	
40	**2426**	Lat.	44° 33′ 46.77891″ N	0.003	**Adjusted**
		Lon.	68° 08′ 33.81973″ W	0.004	
		Elv.	31.870	0.008	
41	**2544**	Lat.	44° 32′ 47.20526″ N	0.002	**Adjusted**
		Lon.	68° 06′ 17.93788″ W	0.002	
		Elv.	40.706	0.003	
42	**2923**	Lat.	44° 34′ 42.09355″ N	0.007	**Adjusted**
		Lon.	67° 59′ 25.65166″ W	0.009	
		Elv.	6.219	0.013	
43	**3166**	Lat.	44° 36′ 25.02615″ N	0.007	**Adjusted**
		Lon.	67° 55′ 30.26830″ W	0.009	
		Elv.	-4.922	0.014	
44	**2640**	Lat.	44° 32′ 09.27880″ N	0.004	**Adjusted**
		Lon.	68° 04′ 32.37880″ W	0.005	
		Elv.	55.764	0.012	
45	**2556**	Lat.	44° 32′ 36.40226″ N	0.004	**Adjusted**
		Lon.	68° 06′ 10.75489″ W	0.004	
		Elv.	43.961	0.006	
46	**2631**	Lat.	44° 32′ 04.79724″ N	0.004	**Adjusted**
		Lon.	68° 04′ 42.46329″ W	0.005	
		Elv.	57.346	0.011	
47	**2564**	Lat.	44° 32′ 30.75152″ N	0.004	**Adjusted**
		Lon.	68° 06′ 03.98646″ W	0.004	
		Elv.	46.379	0.007	
48	**3008**	Lat.	44° 35′ 17.83316″ N	0.007	**Adjusted**
		Lon.	67° 57′ 58.35347″ W	0.009	
		Elv.	8.687	0.013	
49	**2605**	Lat.	44° 32′ 08.16908″ N	0.004	**Adjusted**
		Lon.	68° 05′ 17.43774″ W	0.005	
		Elv.	53.592	0.012	
50	**2981**	Lat.	44° 34′ 53.87107″ N	0.007	**Adjusted**
		Lon.	67° 58′ 14.27891″ W	0.009	
		Elv.	2.011	0.014	
51	**3037**	Lat.	44° 35′ 46.01102″ N	0.007	**Adjusted**
		Lon.	67° 57′ 48.97477″ W	0.009	
		Elv.	19.443	0.013	
52	**3001**	Lat.	44° 35′ 11.46374″ N	0.007	**Adjusted**
		Lon.	67° 58′ 01.64804″ W	0.009	
		Elv.	5.423	0.013	
53	**2953**	Lat.	44° 34′ 40.40588″ N	0.007	**Adjusted**
		Lon.	67° 58′ 45.43079″ W	0.009	
		Elv.	0.917	0.014	
54	**2966**	Lat.	44° 34′ 42.84382″ N	0.007	**Adjusted**
		Lon.	67° 58′ 28.39234″ W	0.009	
		Elv.	0.492	0.015	
55	**3077**	Lat.	44° 36′ 01.14312″ N	0.008	**Adjusted**
		Lon.	67° 57′ 03.10405″ W	0.010	
		Elv.	18.773	0.015	
56	**3127**	Lat.	44° 36′ 27.26804″ N	0.018	**Adjusted**
		Lon.	67° 56′ 05.91975″ W	0.018	
		Elv.	-1.490	0.025	
57	**3207**	Lat.	44° 36′ 08.88210″ N	0.008	**Adjusted**
		Lon.	67° 54′ 40.08176″ W	0.010	
		Elv.	7.484	0.017	
58	**3346**	Lat.	44° 36′ 53.38896″ N	0.008	**Adjusted**
		Lon.	67° 51′ 41.33842″ W	0.010	
		Elv.	5.802	0.017	

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59  3339                       Lat.  44° 36’ 52.76047” N   0.007          Adjusted
                               Lon.  67° 51’ 50.53665” W   0.010
                               Elv.            5.553       0.017

60  3366                       Lat.  44° 36’ 57.34238” N   0.006          Adjusted
                               Lon.  67° 51’ 13.18972” W   0.007
                               Elv.            6.142       0.018

61  3677                       Lat.  44° 39’ 37.90711” N   0.006          Adjusted
                               Lon.  67° 46’ 13.72783” W   0.007
                               Elv.           -6.658       0.012

62  3500                       Lat.  44° 37’ 33.05358” N   0.006          Adjusted
                               Lon.  67° 48’ 33.54803” W   0.006
                               Elv.           -6.364       0.017

63  3349                       Lat.  44° 36’ 53.83569” N   0.006          Adjusted
                               Lon.  67° 51’ 37.14697” W   0.007
                               Elv.            5.899       0.019

64  3637                       Lat.  44° 39’ 16.94196” N   0.006          Adjusted
                               Lon.  67° 46’ 55.75974” W   0.006
                               Elv.           -0.503       0.012

65  3452                       Lat.  44° 37’ 29.81922” N   0.006          Adjusted
                               Lon.  67° 49’ 26.72103” W   0.006
                               Elv.          -12.688       0.017

66  3494                       Lat.  44° 37’ 27.47310” N   0.006          Adjusted
                               Lon.  67° 48’ 35.56692” W   0.006
                               Elv.           -8.513       0.017

67  3746                       Lat.  44° 40’ 09.55537” N   0.008          Adjusted
                               Lon.  67° 45’ 08.98828” W   0.008
                               Elv.            1.052       0.012

68  3442                       Lat.  44° 37’ 29.73417” N   0.006          Adjusted
                               Lon.  67° 49’ 40.65718” W   0.006
                               Elv.          -11.341       0.017

69  3521                       Lat.  44° 37’ 38.22289” N   0.006          Adjusted
                               Lon.  67° 48’ 07.70850” W   0.006
                               Elv.            4.235       0.017

70  3782                       Lat.  44° 39’ 53.14139” N   0.008          Adjusted
                               Lon.  67° 44’ 27.40633” W   0.008
                               Elv.           -7.935       0.014

71  3898                       Lat.  44° 39’ 30.45386” N   0.041          Adjusted
                               Lon.  67° 42’ 05.05988” W   0.035
                               Elv.            7.613       0.039

72  3803                       Lat.  44° 39’ 36.30012” N   0.008          Adjusted
                               Lon.  67° 44’ 10.34670” W   0.008
                               Elv.           -8.807       0.015

73  3766                       Lat.  44° 40’ 03.86438” N   0.007          Adjusted
                               Lon.  67° 44’ 44.13832” W   0.008
                               Elv.           -0.890       0.013

74  3760                       Lat.  44° 40’ 07.00190” N   0.007          Adjusted
                               Lon.  67° 44’ 50.58171” W   0.008
                               Elv.            0.422       0.013

75  3836                       Lat.  44° 39’ 23.95326” N   0.012          Adjusted
                               Lon.  67° 43’ 29.20532” W   0.013
                               Elv.           -4.280       0.020

76  4065                       Lat.  44° 40’ 24.91957” N   0.012          Adjusted
                               Lon.  67° 38’ 35.21482” W   0.014
                               Elv.            9.367       0.022

77  4187                       Lat.  44° 42’ 00.43598” N   0.013          Adjusted
                               Lon.  67° 36’ 53.45468” W   0.014
                               Elv.            4.539       0.022

78  3845                       Lat.  44° 39’ 22.97075” N   0.012          Adjusted
                               Lon.  67° 43’ 17.49934” W   0.013
                               Elv.           -0.313       0.020

79  4402                       Lat.  44° 42’ 41.19710” N   0.010          Adjusted
                               Lon.  67° 32’ 29.20435” W   0.011
                               Elv.           -3.752       0.019

80  4269                       Lat.  44° 42’ 29.62926” N   0.020          Adjusted
                               Lon.  67° 35’ 08.67090” W   0.023
                               Elv.           14.118       0.042

    Site                         Elevation
     ID      Site Descriptor       Factor

 1  MVMA                         1.00000042

 2  EPPE                         0.99999158

 3  J-91                         0.99999429

 4  7281                         0.99999550

 5  1438                         0.99999749

 6  1499                         0.99999838

 7  1495                         0.99999805

 8  1536                         0.99999758

 9  1431                         0.99999780

10  1468                         0.99999763

11  1667                         0.99999605

12  1816                         0.99999931

13  1730                         1.00000051

14  1963                         1.00000017

15  1796                         0.99999872

16  1704                         0.99999870

17  1699                         0.99999831

18  1751                         0.99999944

19  2014                         1.00000085

20  1903                         0.99999771

21  2002                         1.00000024
```

22	**1898**	0.99999804
23	**2076**	1.00000161
24	**1976**	1.00000063
25	**2098**	1.00000168
26	**1968**	1.00000058
27	**2106**	1.00000132
28	**2055**	1.00000065
29	**2161**	1.00000109
30	**2318**	0.99999673
31	**2295**	0.99999768
32	**2166**	1.00000070
33	**2177**	0.99999995
34	**2305**	0.99999770
35	**2432**	0.99999499
36	**2490**	0.99999546
37	**2496**	0.99999535
38	**2330**	0.99999597
39	**2535**	0.99999391
40	**2426**	0.99999500
41	**2544**	0.99999362
42	**2923**	0.99999902
43	**3166**	1.00000077
44	**2640**	0.99999126
45	**2556**	0.99999311
46	**2631**	0.99999101
47	**2564**	0.99999273
48	**3008**	0.99999864
49	**2605**	0.99999160
50	**2981**	0.99999968
51	**3037**	0.99999695
52	**3001**	0.99999915
53	**2953**	0.99999986
54	**2966**	0.99999992
55	**3077**	0.99999706
56	**3127**	1.00000023
57	**3207**	0.99999883
58	**3346**	0.99999909
59	**3339**	0.99999913
60	**3366**	0.99999904
61	**3677**	1.00000104
62	**3500**	1.00000100
63	**3349**	0.99999908
64	**3637**	1.00000008
65	**3452**	1.00000199
66	**3494**	1.00000133
67	**3746**	0.99999984
68	**3442**	1.00000178
69	**3521**	0.99999934
70	**3782**	1.00000124
71	**3898**	0.99999881
72	**3803**	1.00000138
73	**3766**	1.00000014
74	**3760**	0.99999993
75	**3836**	1.00000067
76	**4065**	0.99999853
77	**4187**	0.99999929
78	**3845**	1.00000005
79	**4402**	1.00000059
80	**4269**	0.99999779

Coordinate System Definition Summary

W2W - 20251216

Linear Units of Measure: Meters

Date: 12/16/25
Project file: W2W - 20251216.spr

Ground System

System Name:

Origin:
Latitude = 0° 00’ 00.00000” S
Longitude = 0° 00’ 00.00000” W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation:
Angle = - 0° 00’ 00.00000”

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: North American 1983-CONUS

Reference Ellipsoid: GRS80
a = 6378137.000m
1/f = 298.257222101

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name:

Projection Type:

Zone Name:

Zone Parameters:
Longitude of Central Meridian = 000°00'00.00000"W

Observation Information

W2W - 20251216

Time System: UTC
Linear Units of Measure: Meters

Date: 12/16/25
Project file: W2W - 20251216.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**1438**	0.000	0.000	2.000	6:50:30 PM	8:21:20 PM	B4395B08.323
2	**1499**	0.000	0.000	2.000	3:40:30 PM	8:03:10 PM	B8000A08.323
3	**1495**	0.000	0.000	2.000	3:53:00 PM	8:06:40 PM	B2042A08.323
4	**7281**	1.570	0.092	0.000	1:28:10 PM	8:39:50 PM	B2056A08.323
5	**1468**	0.000	0.000	2.000	4:52:10 PM	8:13:00 PM	B2131A08.323
6	**1536**	0.000	0.000	2.000	2:22:40 PM	6:55:10 PM	B5260A08.323
7	**1431**	0.000	0.000	2.000	7:08:40 PM	8:26:10 PM	B9054A08.323
8	**1667**	0.000	0.000	2.000	1:34:50 PM	7:18:20 PM	B1001A08.322
9	**1816**	0.000	0.000	2.000	4:19:20 PM	7:49:50 PM	B2131A08.322
10	**1730**	0.000	0.000	2.000	5:35:10 PM	8:30:50 PM	B2042A08.322
11	**1751**	0.000	0.000	2.000	5:01:50 PM	8:41:20 PM	B8000A08.322
12	**1963**	1.576	0.092	0.000	11:23:10 AM	2:46:20 PM	B1016A08.322
13	**1796**	1.463	0.092	0.000	3:57:40 PM	8:00:00 PM	B1016B08.322
14	**1704**	0.000	0.000	2.000	12:56:20 PM	6:58:00 PM	B9054A08.322
15	**7281**	1.628	0.092	0.000	10:53:20 AM	9:08:10 PM	B2056A08.322
16	**1699**	1.445	0.092	0.000	12:42:50 PM	7:03:30 PM	B2018B08.322
17	**7281**	0.000	0.000	2.000	10:42:20 AM	4:02:00 PM	B8000A08.318
18	**2014**	0.000	0.000	2.000	2:15:00 PM	6:42:20 PM	B0004A08.318
19	**1903**	0.000	0.000	2.000	7:09:20 PM	9:20:20 PM	B0004B08.318
20	**2002**	0.000	0.000	2.000	2:25:20 PM	6:49:00 PM	B2073A08.318
21	**1898**	0.000	0.000	2.000	7:17:30 PM	9:14:00 PM	B2073B08.318
22	**2076**	0.000	0.000	2.000	1:08:00 PM	4:13:20 PM	B2128A08.318
23	**1976**	0.000	0.000	2.000	5:19:00 PM	8:51:20 PM	B2128B08.318
24	**J-91**	0.000	0.000	2.000	11:11:20 AM	10:05:00 PM	B4395A08.318
25	**2098**	0.000	0.000	2.000	12:26:50 PM	4:01:50 PM	B2042A08.318
26	**1968**	0.000	0.000	2.000	5:01:00 PM	8:56:40 PM	B2042B08.318
27	**2106**	0.000	0.000	2.000	12:40:50 PM	3:51:20 PM	B5260A08.318
28	**1963**	0.000	0.000	2.000	4:50:10 PM	5:18:50 PM	B5260B08.318

29	**2055**	0.000	0.000	2.000	4:26:00 PM	8:51:00 PM	B2131A08.318
30	**2161**	0.000	0.000	2.000	8:24:30 PM	10:08:50 PM	B5260A08.317
31	**2318**	0.000	0.000	2.000	4:32:00 PM	9:26:20 PM	B0004A08.317
32	**2295**	0.000	0.000	2.000	4:57:20 PM	7:40:00 PM	B2128A08.317
33	**2295**	0.000	0.000	2.000	7:42:00 PM	9:41:50 PM	B2128B08.317
34	**J-91**	0.000	0.000	2.000	2:25:00 PM	10:47:20 PM	B8000A08.317
35	**2166**	0.000	0.000	2.000	8:15:20 PM	10:14:20 PM	B2042A08.317
36	**2177**	0.000	0.000	2.000	8:05:30 PM	10:24:00 PM	B2131A08.317
37	**2305**	0.000	0.000	2.000	4:05:50 PM	9:34:00 PM	B4395A08.317
38	**2432**	0.000	0.000	2.000	2:45:40 PM	3:39:20 PM	B5247A08.307
39	**2490**	0.000	0.000	2.000	1:21:30 PM	6:11:50 PM	B2042B08.307
40	**2496**	0.000	0.000	2.000	1:32:20 PM	6:05:20 PM	B5260A08.307
41	**2330**	0.000	0.000	2.000	7:49:00 PM	8:58:50 PM	B5260B08.307
42	**2535**	0.000	0.000	2.000	12:30:50 PM	4:20:10 PM	B2131A08.307
43	**2426**	0.000	0.000	2.000	5:17:10 PM	9:40:30 PM	B2131B08.307
44	**2544**	0.000	0.000	2.000	12:40:00 PM	4:13:50 PM	B8000A08.307
45	**2432**	0.000	0.000	2.000	5:10:50 PM	9:44:50 PM	B8000B08.307
46	**J-91**	0.000	0.000	2.000	12:16:10 PM	9:58:00 PM	B4395A08.307
47	**2923**	0.000	0.000	2.000	11:20:40 AM	2:57:50 PM	B8000A08.306
48	**3166**	0.000	0.000	2.000	11:58:50 AM	2:35:50 PM	B4395A08.306
49	**2640**	0.000	0.000	2.000	4:30:20 PM	6:30:30 PM	B4395B08.306
50	**2556**	0.000	0.000	2.000	8:23:10 PM	9:47:20 PM	B4395C08.306
51	**EPPE**	0.000	0.000	2.000	12:25:30 PM	2:16:50 PM	B2131A08.306
52	**2631**	0.000	0.000	2.000	4:17:20 PM	6:37:10 PM	B2131B08.306
53	**2564**	0.000	0.000	2.000	8:36:40 PM	9:41:50 PM	B2131C08.306
54	**3008**	0.000	0.000	2.000	11:35:00 AM	2:50:00 PM	B5260A08.306
55	**2605**	0.000	0.000	2.000	5:26:40 PM	7:28:10 PM	B5260B08.306
56	**J-91**	0.000	0.000	2.000	10:46:00 AM	9:55:10 PM	B2042A08.306
57	**2981**	0.000	0.000	2.000	3:25:40 PM	9:15:40 PM	B4395B08.292
58	**J-91**	0.000	0.000	2.000	10:46:20 AM	7:24:20 PM	B2042A08.292
59	**3037**	0.000	0.000	2.000	12:48:00 PM	3:02:50 PM	B8000A08.292
60	**3001**	0.000	0.000	2.000	3:37:40 PM	9:30:50 PM	B8000B08.292
61	**3008**	0.000	0.000	2.000	1:20:20 PM	3:54:20 PM	B5247A08.292
62	**2923**	0.000	0.000	2.000	11:18:30 AM	4:09:50 PM	B2131A08.292
63	**2953**	0.000	0.000	2.000	4:43:20 PM	6:02:40 PM	B2131B08.292
64	**3127**	0.000	0.000	2.000	11:43:50 AM	2:28:00 PM	B5260A08.292
65	**2966**	0.000	0.000	2.000	4:55:20 PM	5:55:10 PM	B5260B08.292
66	**3077**	0.000	0.000	2.000	12:23:40 PM	2:46:30 PM	B4395A08.292
67	**3207**	0.000	0.000	2.000	12:03:30 PM	3:18:20 PM	B2042A08.288
68	**EPPE**	1.469	0.092	0.000	11:11:00 AM	3:57:00 PM	B5260A08.288
69	**3346**	0.000	0.000	2.000	11:32:50 AM	3:01:40 PM	B4395A08.288
70	**3339**	0.000	0.000	2.000	11:46:00 AM	3:08:40 PM	B2131B08.288
71	**3166**	0.000	0.000	2.000	12:24:20 PM	3:35:40 PM	B8000A08.288
72	**3366**	0.000	0.000	2.000	7:03:30 PM	9:36:50 PM	B4395B08.287
73	**3677**	0.000	0.000	2.000	11:58:30 AM	3:20:10 PM	B2042A08.287
74	**3500**	0.000	0.000	2.000	3:44:10 PM	6:23:20 PM	B2042B08.287
75	**3349**	0.000	0.000	2.000	7:14:50 PM	9:45:20 PM	B2042C08.287
76	**3637**	0.000	0.000	2.000	12:37:30 PM	5:10:30 PM	B5260A08.287
77	**3452**	0.000	0.000	2.000	5:56:10 PM	9:16:20 PM	B5260B08.287
78	**3494**	0.000	0.000	2.000	3:00:20 PM	4:09:30 PM	B5247A08.287
79	**EPPE**	0.000	0.000	2.000	11:09:20 AM	10:04:10 PM	B2131A08.287
80	**3746**	0.000	0.000	2.000	11:32:30 AM	4:46:40 PM	B8000A08.287
81	**3442**	0.000	0.000	2.000	5:43:40 PM	9:18:50 PM	B8000B08.287
82	**3521**	0.000	0.000	2.000	2:23:40 PM	6:14:10 PM	B4395A08.287
83	**3746**	0.000	0.000	2.000	6:33:20 PM	7:52:20 PM	B5247A08.277
84	**EPPE**	0.000	0.000	2.000	11:39:30 AM	5:52:00 PM	B4395A08.277
85	**EPPE**	1.439	0.092	0.000	5:58:10 PM	9:18:20 PM	B4395B08.277
86	**3782**	0.000	0.000	2.000	5:19:00 PM	8:17:10 PM	B2131A08.277
87	**3898**	0.000	0.000	2.000	1:22:10 PM	2:25:40 PM	B2042A08.277
88	**3803**	0.000	0.000	2.000	3:47:10 PM	8:50:50 PM	B2042B08.277
89	**3766**	0.000	0.000	2.000	4:24:20 PM	8:28:00 PM	B5260A08.277
90	**3760**	0.000	0.000	2.000	4:14:10 PM	8:34:00 PM	B8000A08.277
91	**3836**	0.000	0.000	2.000	4:53:00 PM	8:04:50 PM	B2131B08.275
92	**4065**	0.000	0.000	2.000	1:49:50 PM	7:23:00 PM	B2042A08.275
93	**4187**	0.000	0.000	2.000	3:00:20 PM	6:47:20 PM	B4395B08.275
94	**EPPE**	0.000	0.000	2.000	4:07:40 PM	7:42:10 PM	B5260A08.275
95	**3836**	0.000	0.000	2.000	4:47:40 PM	4:48:10 PM	B2131A08.275

96	**3845**	0.000	0.000	2.000	5:11:10 PM	7:58:10 PM	B5247A08.275
97	**MVMA**	0.000	0.000	2.000	1:12:30 PM	6:08:10 PM	B8000A08.275
98	**4402**	0.000	0.000	2.000	5:08:40 PM	5:14:30 PM	B2042A08.274
99	**4402**	0.000	0.000	2.000	5:46:30 PM	6:31:00 PM	B2042B08.274
100	**4269**	0.000	0.000	2.000	7:35:50 PM	8:40:00 PM	B2042C08.274
101	**MVMA**	0.000	0.000	2.000	2:56:50 PM	9:40:20 PM	B8000A08.274

Project Summary
W2W - 20251216

Project file: W2W - 20251216.spr **Date:** 12/16/25

Client Name:

Project Name: W2W - 20251216

Project Comments:

Desired Horizontal Accuracy: 0.050m + 1ppm
Desired Vertical Accuracy: 0.100m + 2ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: North American 1983-CONUS
Height System: Ellips. Ht.
Linear Units: Meters

Number of Sites: 80
Number of Vectors: 277

Survey Company Name: Horizon Surveying Company, Inc.

NAD83(2011)@ 2010.00 Control Site Positions
W2W - 20251216

Horizontal Coordinate System: North American 1983-CONUS
Height System: Ellips. Ht.
Desired Horizontal Accuracy: 0.050m + 1ppm
Desired Vertical Accuracy: 0.100m + 2ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 12/16/25
Project file: W2W - 20251216.spr

	Site ID	Control Site Descriptor	Position	95% Error	Control Type	Fix Status
1	**MVMA**		Lat. 44° 41′ 58.47587″	0.000	Hor/Ver	**Fixed**
			Lon. 67° 28′ 33.34623″	0.000		**Fixed**
			Elv. -2.657	0.000		**Fixed**
2	**EPPE**		Lat. 44° 40′ 09.31127″	0.000	Hor/Ver	**Fixed**
			Lon. 67° 49′ 55.37302″	0.000		**Fixed**
			Elv. 53.679	0.000		**Fixed**
3	**J-91**		Lat. 44° 32′ 57.00025″	0.000	Hor/Ver	**Fixed**
			Lon. 68° 06′ 43.00584″	0.000		**Fixed**
			Elv. 36.423	0.000		**Fixed**
4	**7281**		Lat. 44° 31′ 38.86008″	0.000	Hor/Ver	**Fixed**
			Lon. 68° 23′ 25.14592″	0.000		**Fixed**
			Elv. 28.690	0.000		**Fixed**

	Site ID	Control Site Descriptor	Elevation Factor
1	**MVMA**		1.00000042
2	**EPPE**		0.99999158
3	**J-91**		0.99999429
4	**7281**		0.99999550

Adjustment Summary
W2W - 20251216

Project file: W2W - 20251216.spr
Date: 12/16/25

Adjustment Type:	Fully Constrained
Variance of Unit Weight:	1.5
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	8
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	264
Site Total:	80
Horizontally Constrained Sites:	4
Vertically Constrained Sites:	4
Horizontal Coordinate System:	North American 1983-CONUS
Height System:	Ellips. Ht.
Desired Horizontal Accuracy:	0.050m + 1ppm
Desired Vertical Accuracy:	0.100m + 2ppm
Confidence Level:	95% Err.

Appendix E - MDOT Survey Control & MDOT Datasheets

Positioning, Navigation, and Timing (PNT) hadn't been fully realized by the end of the first decade of the 21st century, and while RTK surveying techniques were solidly in place by 2010, GPS and GLONASS were the only 2 constellations available. Even in 2026, NGS's standard OPUS tool is still processing only GPS observation data, though multi-constellation GNSS signals are currently being tested by NGS for OPUS. Using a total station, turning angles and measuring distances, was still the predominate field technique for most locations and doing stakeouts. This was the state and standard of field practices in 2009 which led to the MaineDOT strategy[25] of setting intervisible pairs of monuments.

As previously mentioned, MDOT has published its control data in the reference frame of NAD83(1996) and which is largely reflected in the following datasheets comprising Appendix E, except where otherwise noted. The table to the right of paired control points; however, are in the reference frame NAD83(2011). The process used was to take the datasheet's NAD83(1996) ME2k East Zone coordinates (meters) and then to transform them from NAD83(FBN) to NAD83(2011) using NCAT's Multipoint Conversion tab available at https://www.ngs.noaa.gov/NCAT/

U.S. COAST & GEODETIC SURVEY
ELEV.
FEET
$250 FINE OR IMPRISONMENT
FOR DISTURBING THIS MARK
J 91
1942
ABOVE MEAN SEA LEVEL
BENCH MARK

MDOT Project 014259.00
Survey Control – Intervisible pairs
Washington Junction to Ayers Junction

NAD83(2011) – Geodetic d.ddd & ME2k East Zone (meters)					
Val Sheet	**Designation**	**Lat**	**Long**	**Northing**	**Easting**
V4-31	HF-10	44.5551230677	-68.3781005997	80323.938	660027.138
V4-31	HF-11	44.5558484276	-68.3763944586	80403.707	660163.191
V4-32	HF-20	44.5646001519	-68.3550462919	81366.015	661865.064
V4-32	B 8 (NGS)	44.5648878169	-68.3535470793	81397.282	661984.349
V4-34	HF-30	44.5735624398	-68.3304869115	82350.738	663821.621
V4-34	A 160 (NGS)	44.5756070119	-68.3296041639	82577.543	663893.001
V4-35	A 8 (NGS)	44.5862344650	-68.3202037561	83754.366	664646.071
V4-35	HF-35	44.5868966591	-68.3189412216	83827.404	664746.730
V4-36	HF-40	44.5918172634	-68.2982049685	84365.442	666396.227
V4-36	HF-41	44.5923164265	-68.2958745816	84419.953	666581.553
V4-38	HF-50	44.5963041066	-68.2590206821	84848.640	669509.926
V4-38	HF-51	44.5954964419	-68.2574410308	84758.302	669634.925
V4-40	HF-60	44.5880209393	-68.2295236814	83917.603	671847.901
V4-40	XENA (destroyed)	44.5879187007	-68.2281905503	83905.783	671953.713
V4-41	FS-10	44.5855910955	-68.2138528170	83642.309	673091.175
V4-41	FS-11	44.5846789641	-68.2123915062	83540.471	673206.801
V4-43	FS-20	44.5786450069	-68.1941033429	82864.128	674656.494
V4-43	FS-21	44.5777285957	-68.1921736310	82761.698	674809.358
V4-45	FS-50	44.5627285619	-68.1607301219	81085.655	677300.839
V4-45	FS-51	44.5627194867	-68.1593758558	81084.271	677408.422
V4-45	FS-60	44.5668165481	-68.1496610201	81536.899	678181.726
V4-45	FS-61	44.5668638300	-68.1489827052	81541.972	678235.627
V4-47	FS-70	44.5493401916	-68.1131543609	79585.802	681076.046
V4-47	J 91 (NGS)	44.5491667400	-68.1119460702	79566.249	681172.002
V4-49	SC-10	44.5352942094	-68.0875996728	78019.401	683102.582
V4-49	SC-11	44.5348647804	-68.0863799382	77971.431	683199.403
V4-51	SC-20	44.5504432407	-68.0551802107	79696.576	685682.993
V4-51	SC-21	44.5516216320	-68.0535201450	79827.230	685815.188
V4-53	SC-30	44.5691554937	-68.0257557759	81771.163	688024.880
V4-53	S 7 (NGS)	44.5689951032	-68.0233146349	81752.985	688218.757
V4-55	SC-40	44.5772937127	-67.9920421708	82671.100	690704.180
V4-55	SC-41	44.5785878318	-67.9901190423	82814.687	690857.123
V4-56	SC-50	44.5856216508	-67.9678039958	83594.037	692630.296
V4-57	SC-51	44.5864902807	-67.9671095098	83690.498	692685.555
V4-59	SC-60	44.6034590150	-67.9412647781	85574.101	694739.425
V4-59	SC-61	44.6043823705	-67.9395354820	85676.596	694876.790
V4-59	SC-70	44.6096851785	-67.9267839430	86265.132	695889.457
V4-60	SC-71	44.6084750213	-67.9257246618	86130.604	695973.457
V4-61	CCF-10	44.6071082374	-67.8925646147	85977.623	698605.682
V4-62	CCF-11	44.6075141187	-67.8909245919	86022.699	698735.879
V4-63	CCF-20	44.6157750849	-67.8545239447	86940.754	701625.193
V4-63	CCF-21	44.6160261367	-67.8529987338	86968.683	701746.242
V4-65	CCF-30	44.6234375751	-67.8180773030	87793.598	704517.385
V4-66	CCF-31	44.6228298082	-67.8160824044	87726.174	704675.749
V4-67	CCF-40	44.6388203329	-67.7908914764	89504.832	706673.089
V4-68	CCF-41	44.6400860439	-67.7901982193	89645.538	706727.945
V4-69	CCF-50	44.6582592102	-67.7739356893	91666.459	708015.667
V4-69	CCF-51	44.6584861846	-67.7726626426	91691.808	708116.604

MDOT Project 014259.00
Survey Control – Intervisible pairs
Washington Junction to Ayers Junction

NAD83(2011) – Geodetic d.ddd & ME2k East Zone (meters)					
Val Sheet	**Designation**	**Lat**	**Long**	**Northing**	**Easting**
V4-71	CCF-60	44.6690123542	-67.7504899703	92863.954	709873.381
V4-71	CCF-61	44.6688966217	-67.7492285363	92851.247	709973.430
V4-72	CCF-70	44.6572324976	-67.7274552893	91557.990	711702.352
V4-72	CCF-71	44.6568772291	-67.7260513527	91518.714	711813.776
V4-74	CCF-80	44.6628106281	-67.6875095012	92184.359	714869.184
V4-74	CCF-81	44.6631297615	-67.6860081693	92220.097	714988.167
V4-76	CCF-90	44.6698613874	-67.6473674910	92975.967	718050.512
V4-76	CCF-91	44.6701304515	-67.6455919440	93006.261	718191.223
V4-78	CFW-10	44.6928299219	-67.6227418735	95534.057	719995.341
V4-79	CFW-11	44.6943966313	-67.6211351765	95708.551	720122.154
V4-80	CFW-20	44.7071780572	-67.5887139147	97137.390	722686.977
V4-80	CFW-21	44.7078073238	-67.5870904835	97207.770	722815.380
V4-83	CFW-30	44.7057215113	-67.5497854016	96987.114	725772.546
V4-83	CFW-31	44.7067415402	-67.5488844579	97100.749	725843.490
V4-84	WM-10	44.7193876064	-67.5225989725	98514.707	727920.440
V4-84	WM-11	44.7196932516	-67.5200752818	98549.540	728120.242
V4-86	S 167 (NGS)	44.7149501749	-67.4868991884	98034.463	730751.255
V4-86	MEM-10	44.7148429622	-67.4857650085	98022.978	730841.179
V4-88	MEM-20	44.7202678451	-67.4494125162	98640.223	733718.432
V4-88	MEM-21	44.7211625504	-67.4469575437	98740.666	733912.412
V4-90	EMM-10	44.7160725969	-67.4058135216	98193.010	737175.378
V4-90	EMM-11	44.7165486345	-67.4040192373	98246.730	737317.240
V4-92	EMM-20	44.7390861712	-67.3895916767	100757.910	738445.448
V4-92	EMM-21	44.7406155913	-67.3875424065	100928.836	738606.737
V4-94	EMM-30	44.7624452439	-67.3983367943	103349.587	737737.611
V4-94	EMM-31	44.7638387844	-67.4003834501	103503.497	737574.673
V4-96	EMM-40	44.7925497229	-67.4095482406	106689.816	736830.854
V4-96	EMM-41	44.7938325239	-67.4100784860	106832.128	736788.081
V4-99	EMM-50	44.8348615115	-67.4201244053	111387.018	735967.659
V4-99	EMM-51	44.8368092645	-67.4179556769	111604.427	736137.926
V4-101	EMM-60	44.8567211014	-67.3895955257	113830.165	738367.108
V4-102	EMM-61	44.8567230442	-67.3864276308	113831.882	738617.502
V4-103	EMM-70	44.8636427777	-67.3541337079	114616.711	741165.132
V4-104	EMM-71	44.8635934270	-67.3519851031	114612.318	741334.976
V4-105	EMM-80	44.8752754622	-67.3171745747	115928.813	744077.209
V4-106	T 6 (NGS)	44.8750948464	-67.3161947260	115909.274	744154.771
V4-108	EDD-10	44.8837618455	-67.2825089564	116891.283	746809.472
V4-108	EDD-11	44.8848956693	-67.2807852682	117018.277	746944.729
V4-110	EDD-20	44.9001937344	-67.2476863619	118737.984	749546.504
V4-110	EDD-21	44.9019923283	-67.2471286887	118938.198	749589.004
V4-112	EDD-30	44.9282378217	-67.2599886337	121847.029	748551.226
V4-112	EDD-31	44.9298900782	-67.2622186697	122029.309	748373.791
V4-114	EDD-40	44.9555363720	-67.2640254978	124878.266	748209.689
V4-114	EDD-41	44.9567526956	-67.2635184616	125013.736	748248.678
V4-117	EDD-50	44.9853400070	-67.2362293199	128207.216	750376.883
V4-117	EDD-51	44.9853328271	-67.2345595603	128207.457	750508.575

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[25] See letter dated 13 Feb 2009 from Bruce A. Van Note, MaineDOT Deputy Commissioner, to Maine Representative Brian Langley which included MDOT's *Boundary Preservation Strategy*

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
HF-10

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **80323.966** EAST-2000 m: **660027.111** City: **HANCOCK** County: **HAN**

NORTH-2000 sFT: **263529.545** EAST-2000 sFT: **2165438.947** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **10/28/2010** Project: **04125900**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: HF-10 The station is located at the beginning of the Sunrise Trail at the end or the gravel parking lot on the right. The station is a 4' rod and disk stamped --- HF-10 2010 ---driven subsurface in the shoulder of the trail. IT IS: 3.7' E of MWS on wooden post. BK#370 Companion is HF-11.

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
HF-11

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **80403.735** EAST-2000 m: **660163.164** City: **HANCOCK** County: **HAN**

NORTH-2000 sFT: **263791.254** EAST-2000 sFT: **2165885.314** GPS: **Y**

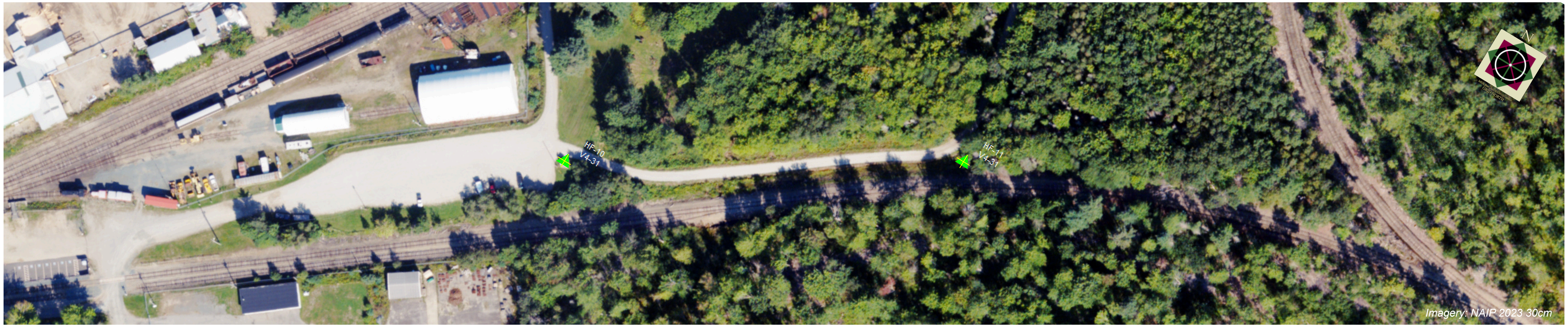
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **10/28/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: HF-11 The station is located 0.10 mi from the beginning on the right. The station is a 4' rod and disk stamped --- HF-11 2010 ---driven subsurface in the shoulder of the trail. IT IS: 13.3' S of MWS on wooden post. BK#370 Companion is HF-10



Imagery: NAIP 2023 30cm

NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 0 *Longitude: 0 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443321.05523 *Longitude: 682235.02127 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
HF-20

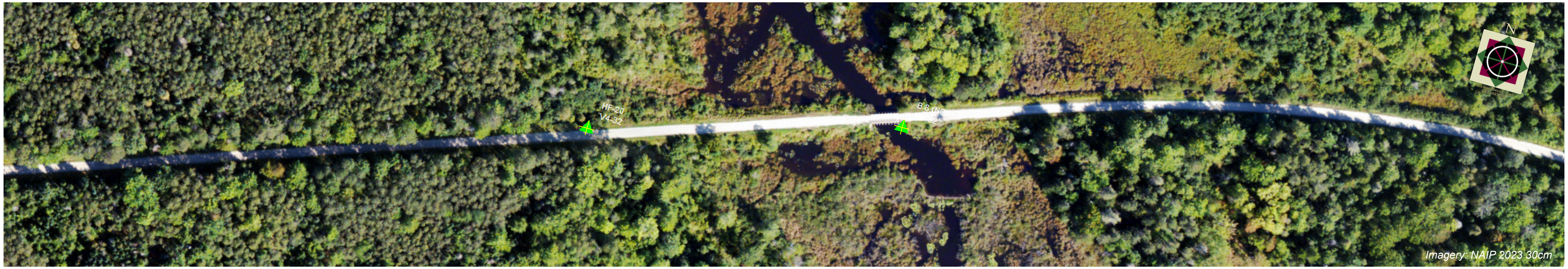
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone:	**E**	Adjustment:	**NAD83(1996)**	Type:	**H**		
NORTH-2000 m:	**81366.044**	EAST-2000 m:	**661865.037**	City:	**HANCOCK**	County:	**HAN**
NORTH-2000 sFT:	**266948.429**	EAST-2000 sFT:	**2171468.876**	GPS:	**Y**		
NAVD88 ELEV m:	**0**	NAVD88 ELEV sFT:	**0**	Order:			
Described By:	**JME**	Date Set:	**11/15/2010**	Project:	**014259.00**		

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: HF-20 The station is located 1.5 mi from beginning of the Sunrise Trail on the right. The station is a 4' rod and disk stamped --- HF-20 2010 ---driven subsurface in the shoulder of the trail. IT IS: 3.0' S of MWP; 8.5' NNE of CL; 22.6' NW of caution sign. BK#370 Companion is NGS benchmark B 8.



NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	**0**	NORTH m	**0**	NGVD 29 ELEV m	**0**
EAST m	**0**	EAST m	**0**	NGVD 29 ELEV sFT	**0**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443352.56147 *Longitude: 682118.16788 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
B 8 (NGS)

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone:	**C**	Adjustment:	**NAD83(2011)**	Type:	**B**		
NORTH-2000 m:	**81397.282**	EAST-2000 m:	**661984.349**	City:	**HANCOCK**	County:	**HAN**
NORTH-2000 sFT:	**267050.916**	EAST-2000 sFT:	**2171860.318**	GPS:	**Y**		
NAVD88 ELEV m:	**21.216**	NAVD88 ELEV sFT:	**69.606**	Order:	**1**		
Described By:	**NGS**	Date Set:	**03/08/2013**	Project:	**014259.00**		

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

Designation: B 8 (NGS) PE0044_MARKER: DB = BENCH MARK DISK SETTING: 36 = SET IN A MASSIVE STRUCTURE SP_SET: BRIDGE WALL STAMPING: B 8 1927 70.328 STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL DESCRIBED BY COAST AND GEODETIC SURVEY 1966 1.6 MI NE FROM WASHINGTON JUNCTION. ABOUT 1.6 MILES NORTHEAST ALONG THE MAINE CENTRAL RAILROAD FROM THE STATION AT WASHINGTON JUNCTION, ABOUT 0.15 MILE EAST OF MILEPOST P170/C100, AT THE RAILROAD BRIDGE OVER KILKENNY STREAM, 12.5 FEET SOUTH OF THE SOUTH RAIL, IN THE TOP OF THE SECOND STEP OF THE SOUTHEAST STONE WING WALL FOR THE BRIDGE, 1 1/2 FEET SOUTHEAST OF THE SOUTHEAST END OF THE TOP STEP OF THE WING WALL, AND ABOUT 2 1/2 FEET BELOW THE LEVEL OF THE TRACK *** Companion to HF-20.

NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	**0**	NORTH m	**0**	NGVD 29 ELEV m	**21.409**
EAST m	**0**	EAST m	**0**	NGVD 29 ELEV sFT	**70.239**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443353.59614 *Longitude: 682112.76949 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
HF-30

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **82350.768** EAST-2000 m: **663821.594** City: **HANCOCK** County: **HAN**

NORTH-2000 sFT: **270179.145** EAST-2000 sFT: **2177888.013** GPS: **Y**

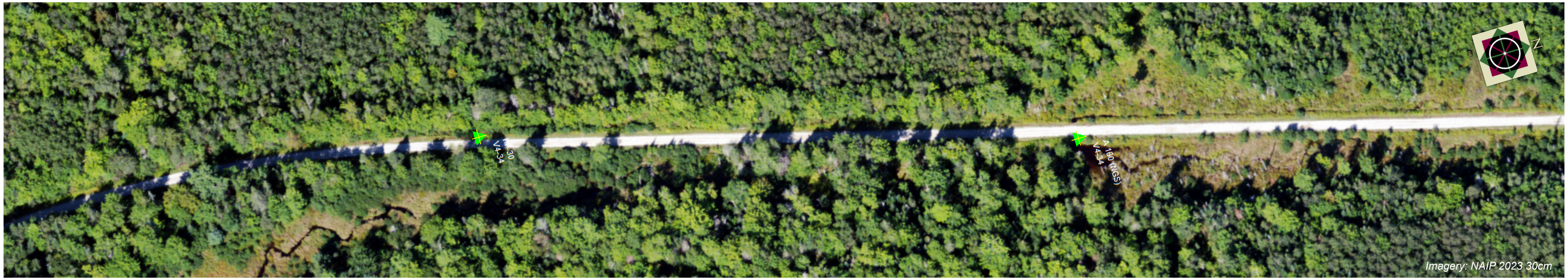
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: HF-30 The station is located 3.2 mi from beginning of the Sunrise Trail on the left. The station is a 4' rod and disk stamped --- HF-30 2010 ---driven subsurface in the shoulder of the trail. IT IS: 1.6' SE of MWP; 9.3' NNE of CL. BK#370 Companion is NGS benchmark A 160



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE - **NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443424.82574 *Longitude: 681949.75411 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
A 160 (NGS)

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **B**

NORTH-2000 m: **82577.573** EAST-2000 m: **663892.974** City: **HANCOCK** County: **HAN**

NORTH-2000 sFT: **270923.254** EAST-2000 sFT: **2178122.199** GPS: **Y**

NAVD88 ELEV m: **29.063** NAVD88 ELEV sFT: **95.351** Order: **1**

Described By: **NGS** Date Set: **03/06/2013** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

Designation: A 160 (NGS) PE0046'DESCRIBED BY COAST AND GEODETIC SURVEY 1966 3.5 MI NE FROM WASHINGTON JUNCTION. 3.5 MILES NORTHEAST ALONG THE MAINE CENTRAL RAILROAD FROM THE STATION AT WASHINGTON JUNCTION, 0.65 MILE WEST OF A DIRT ROAD CROSSING, 5 RAILS WEST OF MILEPOST P172/C98, IN THE TOP OF THE EAST END OF THE SOUTH HEAD WALL FOR A 3-FOOT BOX CULVERT, 7.3 FEET SOUTH OF THE SOUTH RAIL, AND ABOUT 1 FOOT BELOW THE LEVEL OF THE TRACK. SETTING: 30 = SET IN A LIGHT STRUCTURE SP_SET: CULVERT STAMPING: --- A 160 1966 --- STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY Companion is HF-30

NAD83 (1986)		- ZONE - **NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	29.26
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	95.997
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443432.1862 *Longitude: 681946.57622 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
A 8 (NGS)

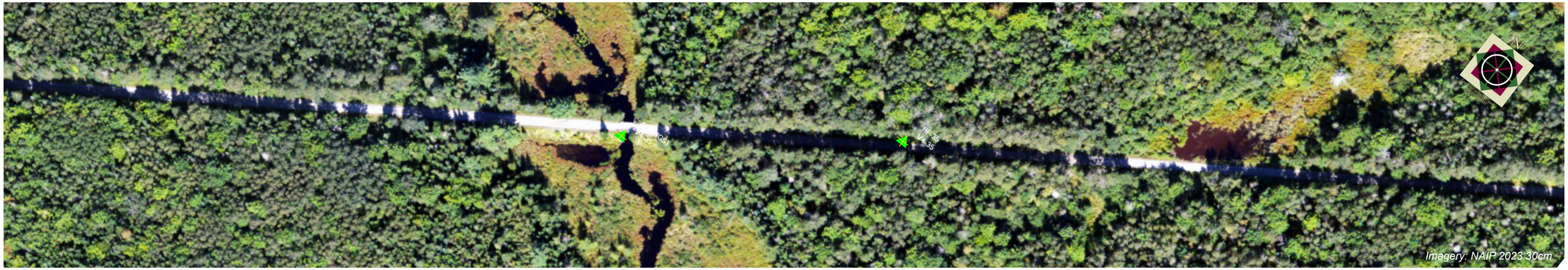
VKB Added 20260204 - NAD83(2011)
NORTH-2000 m: **83754.366**
EAST-2000 m: **664646.071**

ME2000 Zone: **E** Adjustment: **NAD83(2011)** Type: **B**
NORTH-2000 m: **0** EAST-2000 m: **0** City: County:
NORTH-2000 sFT: **0** EAST-2000 sFT: **0** GPS: **Y**
NAVD88 ELEV m: **27.43** NAVD88 ELEV sFT: **89.993** Order: **1**
Described By: **NGS** Date Set: **01/01/1927** Project: **01254900**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

Designation: MARKER: DB = BENCH MARK DISK 30 = SET IN A LIGHT STRUCTURE STAMPING: A 8 1927 90.715 STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY DESCRIBED BY COAST AND GEODETIC SURVEY 1966 4.4 MI NE FROM WASHINGTON JUNCTION. 4.4 MILES EAST ALONG THE MAINE CENTRAL RAILROAD FROM THE STATION AT WASHINGTON JUNCTION, ABOUT 0.25 MILE EAST OF A NARROW DIRT ROAD CROSSING, ABOUT 0.1 MILE WEST OF MILEPOST P173/C97, AT THE RAILROAD BRIDGE OVER THE WEST BRANCH OF EGYPT STREAM, 11.0 FEET SOUTH OF THE SOUTH RAIL, ABOUT 3 FEET BELOW THE LEVEL OF THE TRACK AND SET IN THE TOP OF THE SECOND STEP AT THE SOUTH END OF THE WEST ABUTMENT OF THE BRIDGE.



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	**0**	NORTH m	**0**	NGVD 29 ELEV m	**27.629**
EAST m	**0**	EAST m	**0**	NGVD 29 ELEV sFT	**90.646**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443510 *Longitude: 681912 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
HF-35

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**
NORTH-2000 m: **83827.435** EAST-2000 m: **664746.703** City: **HANCOCK** County: **HAN**
NORTH-2000 sFT: **275023.843** EAST-2000 sFT: **2180923.141** GPS: **Y**
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:
Described By: **PAL** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: HF-35 The station is located 4.4 mi from beginning of the Sunrise Trail on the left. The station is a 4' rod and disk stamped --- HF-35 2010 --- driven subsurface in the shoulder of the trail. IT IS: 7.4' SSE of CL; 1.8' WSW of wooden post with MWS attached. BK#370 Companion is NGS benchmark A 8.

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	**0**	NORTH m	**0**	NGVD 29 ELEV m	**0**
EAST m	**0**	EAST m	**0**	NGVD 29 ELEV sFT	**0**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443512.82898 *Longitude: 681908.18963 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

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16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
HF-40

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **84365.474** EAST-2000 m: **666396.2** City: **FRANKLIN** County: **HAN**

NORTH-2000 sFT: **276789.059** EAST-2000 sFT: **2186334.866** GPS: **Y**

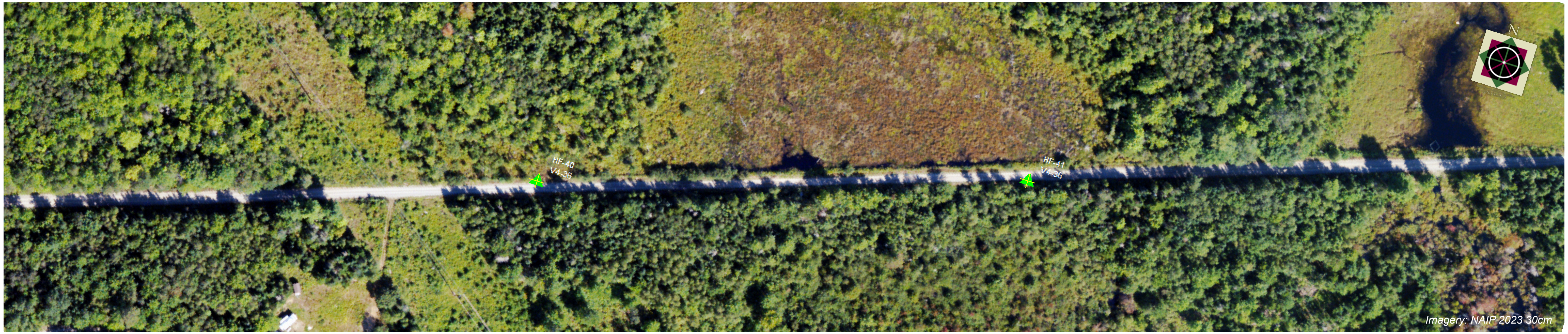
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: HF-40 The station is located 5.4 mi from beginning of the Sunrise Trail on the right. The station is a 4' rod and disk stamped --- HF-40 2010 ---driven subsurface in the shoulder of the trail. IT IS: 1.8' S of MWP; 9.0' N of CL. BK#370 Companion is HF-41



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443530.54319 *Longitude: 681753.53911 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
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16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
HF-41

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **84419.985** EAST-2000 m: **666581.526** City: **HANCOCK** County: **HAN**

NORTH-2000 sFT: **276967.901** EAST-2000 sFT: **2186942.89** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: HF-41 The station is located 5.5 mi from beginning of the Sunrise Trail on the left. The station is a 4' rod and disk stamped --- HF-41 2010 --- driven subsurface in the shoulder of the trail. IT IS: 2.2' SE of MWP. BK#370 Companion is HF-40

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443532.34018 *Longitude: 681745.14972 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
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Control Point Description
NAD 83 DATUM - METRIC
HF-50

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **84848.671** EAST-2000 m: **669509.9** City: **FRANKLIN** County: **HAN**

NORTH-2000 sFT: **278374.348** EAST-2000 sFT: **2196550.397** GPS: **Y**

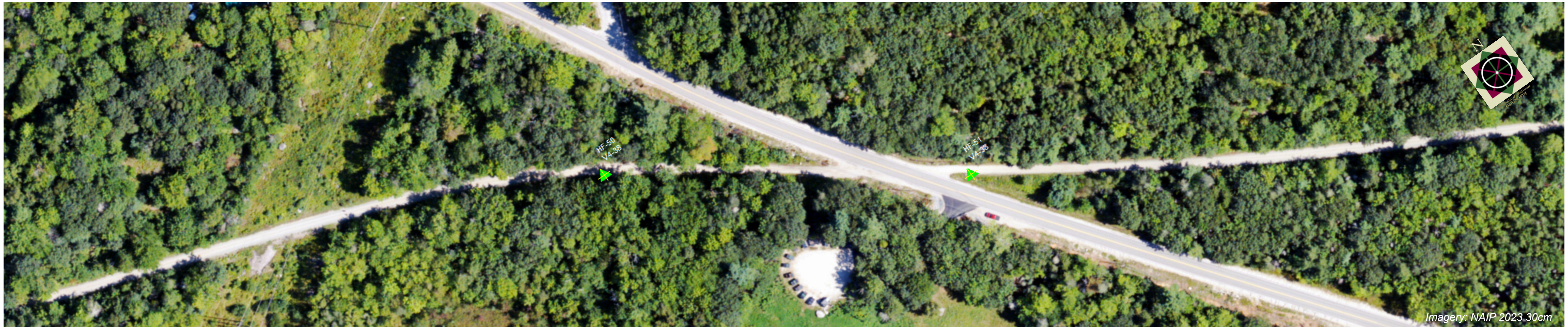
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **JME** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: FS-50 The station is located 7.5 mi from beginning of the Sunrise Trail on the left. The station is a 4' rod and disk stamped --- HF-50 2010 --- driven subsurface in the shoulder of the trail. IT IS: 14.4' SSE of wooden post w/ MWS attached; 9.3' SSW of CL. BK#370 Campanion is HF-51



NAD83 (1986) - ZONE - **NAD83 (1992)**

NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443546.6958 *Longitude: 681532.47566 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
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Control Point Description
NAD 83 DATUM - METRIC
HF-51

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **84758.332** EAST-2000 m: **669634.899** City: **FRANKLIN** County: **HAN**

NORTH-2000 sFT: **278077.961** EAST-2000 sFT: **2196960.498** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: HF-51 The station is located 5.76mi from beginning of the Sunrise Trail on the left or at the junction of Rte 200. The station is a 4' rod and disk stamped --- HF-51 2010 --- driven subsurface in the shoulder of the trail. IT IS: 3.2' NE of MWP; 8.8' WSW of CL. BK#370 Companion is HF-50

NAD83 (1986) - ZONE - **NAD83 (1992)**

NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443543.78817 *Longitude: 681526.78891 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
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Control Point Description
NAD 83 DATUM - METRIC
HF-60

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **83917.625** EAST-2000 m: **671847.875** City: **FRANKLIN** County: **FRA**

NORTH-2000 sFT: **275319.741** EAST-2000 sFT: **2204220.903** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: HF-60 The station is located 9.1 mi from beginning of the Sunrise Trail on the left. The station is a disk stamped --- HF-60 2010 ---cemented in an old concrete pad. IT IS: 30.0' SW of MWP; 20.4' NE of C; 57.0' SE of 24" Pine next to gate. BK#370 COMPANION is XENA.

NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	**0**	NORTH m	**0**	NGVD 29 ELEV m	**0**
EAST m	**0**	EAST m	**0**	NGVD 29 ELEV sFT	**0**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443516.87609 *Longitude: 681346.28642 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
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Control Point Description
NAD 83 DATUM - METRIC
XENA

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **ME2000 EAST** Adjustment: **NAD83(2011)** Type: **B**

NORTH-2000 m: **83905.783** EAST-2000 m: **671953.713** City: **FRANKLIN** County: **HAN**

NORTH-2000 sFT: **275280.89** EAST-2000 sFT: **2204568.14** GPS: **C**

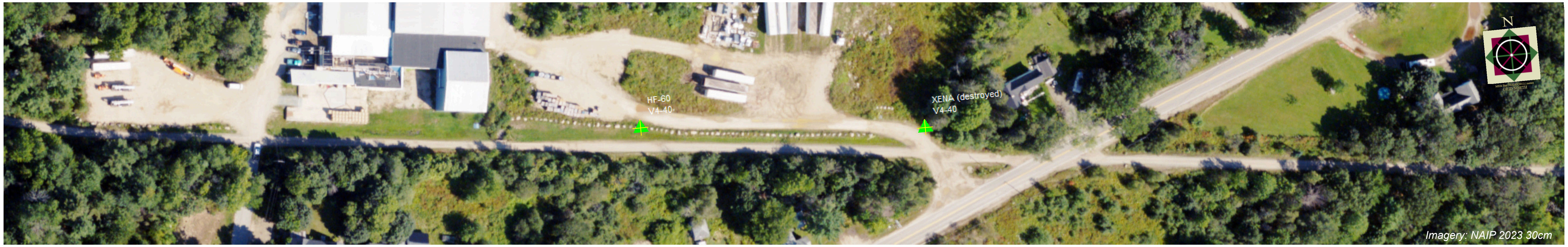
NAVD88 ELEV m: **22.266** NAVD88 ELEV sFT: **73.051** Order: **4**

Described By: **CTP** Date Set: **05/14/1997** Project:

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: XENA NGS NSRS2007 AJ2723 CBN - This is a Cooperative Base Network Control Station. Located in the town of Franklin. To reach from the easterly junction of State Rtes. 182 & 200 in Franklin, go 0.16km (0.10mi) southeasterly along Rte. 182 to a gravel entrance on the left and the mark as described. The station is a standard aluminum disk stamped --- XENA 1997 --- cemented in a drill hole on the top of a 1.5m x 1.0m x 0.30m (4.92'x 3.28'x 0.98') boulder on the northerly side of Rte. 182 It is: 3.55m (11.65') SW of a 0.10m (4") Spruce tree. 32.30m (105.97) N of the centerline of Rte. 182. 9.73m (31.92') North of the near rail of the main track at the center of railroad crossing (not 90 degrees) to the point. 14.44m (47.38) NE of a metal RR marker with an "F." Elevation Tracking: 22.227m NAVD88 PIN 11473.00; 20.416m NAVD88 PIN 11024.00 Gouldsboro 22.254m NAVD88 PIN REG4 Goulds Camp. ME2000 CENTRAL N:121270.889; E:571214.193. Campanion is HF-60.



Imagery: NAIP 2023 30cm

NAD83 (1986)	- ZONE **E** -	**NAD83 (1992)**			
NORTH m	**102390.466**	NORTH m	**102390.34**	NGVD 29 ELEV m	**22.468**
EAST m	**321582.151**	EAST m	**321582.224**	NGVD 29 ELEV sFT	**73.714**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443516.50733 *Longitude: 681341.486 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
FS-10

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **83642.332** EAST-2000 m: **673091.15** City: **FRANKLIN** County: **HAN**

NORTH-2000 sFT: **274416.551** EAST-2000 sFT: **2208299.881** GPS: **Y**

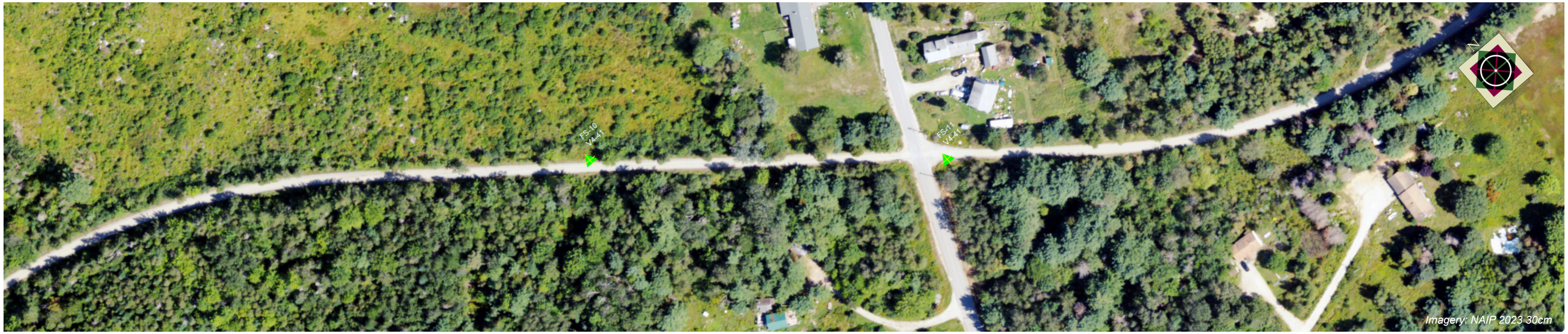
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: FS-10 The station is located from the junction of Rte 182 and the Rail Trail 0.7 mi on the left. The station is a 4' rod and disk stamped --- FS-10 2010 --- driven subsurface in the shoulder of the trail. IT IS: 7.7' ENE of CL; 2.6' WSW of MWP/MWS. BK#370



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE - NAD83 (1992)			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443508.12868 *Longitude: 681249.8713 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
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Control Point Description
NAD 83 DATUM - METRIC
FS-11

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **83540.494** EAST-2000 m: **673206.776** City: **FRANKLIN** County: **HAN**

NORTH-2000 sFT: **274082.437** EAST-2000 sFT: **2208679.231** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **JME** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: FS-11 The station is located from the junction of Rte 182 and the Rail Trail 0.8 mi and at Card Crossing Rd on the right. The station is a 4' rod and disk stamped --- FS-11 2010 --- driven subsurface in the shoulder of the trail. IT IS: 8.4' WSW of CL; 28.1' S of wooden post with Stop sign and MWS. BK#370

NAD83 (1986)		- ZONE - NAD83 (1992)			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443504.84501 *Longitude: 681244.61058 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
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Control Point Description
NAD 83 DATUM - METRIC
FS-20

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **82864.153** EAST-2000 m: **674656.469** City: **FRANKLIN** County: **HAN**

NORTH-2000 sFT: **271863.475** EAST-2000 sFT: **2213435.432** GPS: **Y**

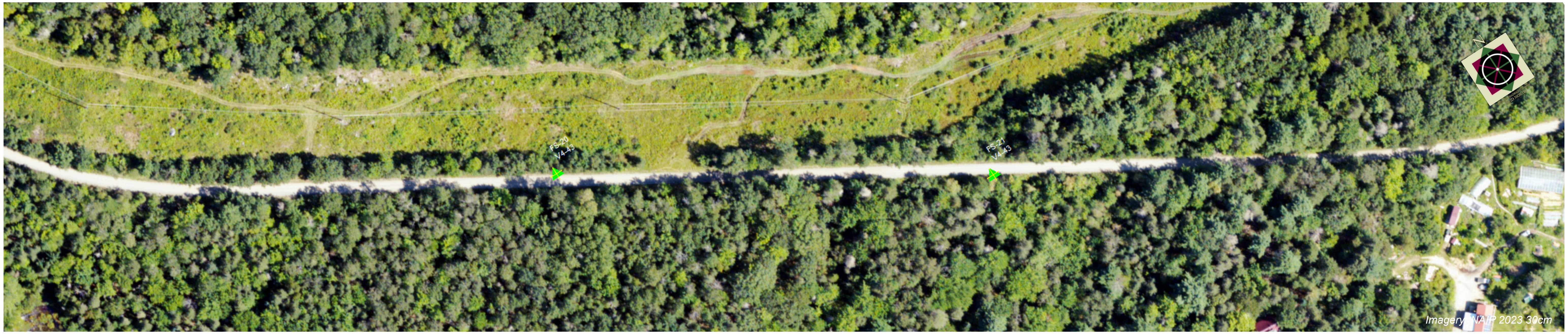
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: FS-20 The station is located from the junction of Rte 182 2.4 mi on the left. The station is a 4' rod and disk stamped --- FS-20 2010 --- driven subsurface in the shoulder of the trail. IT IS: 9.3' NE of CL; 1.9' SW of MWP/MWS. BK#370



NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443443.12282 *Longitude: 681138.77319 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
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Control Point Description
NAD 83 DATUM - METRIC
FS-21

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **82761.723** EAST-2000 m: **674809.333** City: **FRANKLIN** County: **FRA**

NORTH-2000 sFT: **271527.42** EAST-2000 sFT: **2213936.953** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: FS-21 The station is located from the junction of Rte 182 and the Rail Trail 2.5 mi on the right. The station is a 4' rod and disk stamped --- FS-21 2010 --- driven subsurface in the shoulder of the trail. IT IS: 9.0' SW of CL; 1.9' NE of MWP/ MWS; 11.5' NW of center of stone culvert. BK#370

NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443439.82374 *Longitude: 681131.82623 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
FS-50

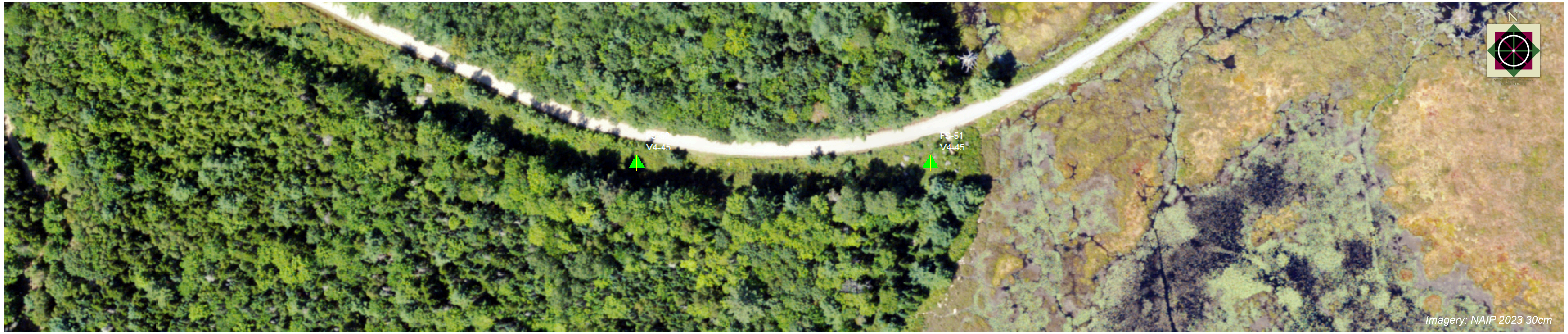
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **81085.681**
EAST-2000 m: **677300.814**
City: **SULLIVAN**
County: **HAN**
NORTH-2000 sFT: **266028.605**
EAST-2000 sFT: **2222111.087**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **JME**
Date Set: **04/08/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: FS-50 station is the along rail trail in Sullivan, 4.5mi from Rte 182. The station is a disk stamped --- FS-50 2010 --- set in concrete in a boulder. IT IS: 7.3' SSW of MWP w/ sign; 71.5' ESE of pole #507; 30.0' of CL of rail trail. BK#369 & in BK #370



NAD83 (1986)		- ZONE - **NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443345.82368 *Longitude: 680938.6296 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
FS-51

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **81084.297**
EAST-2000 m: **677408.397**
City: **SULLIVAN**
County: **HAN**
NORTH-2000 sFT: **266024.064**
EAST-2000 sFT: **2222464.049**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **DR**
Date Set: **04/08/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: FS-51 station is the along rail trail in Sullivan. The station is a disk stamped --- FS-51 2010 --- set in concrete in a boulder. IT IS: 13.2' NE of MWP w/ sign; 15.5' SE of pole #509; 42.0' S of CL of rail trail. BK#369

NAD83 (1986)		- ZONE - **NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443345.71902 *Longitude: 680933.75424 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
FS-60

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **81536.925** EAST-2000 m: **678181.701** City: **SULLIVAN** County: **HAN**

NORTH-2000 sFT: **267509.061** EAST-2000 sFT: **2225001.131** GPS: **Y**

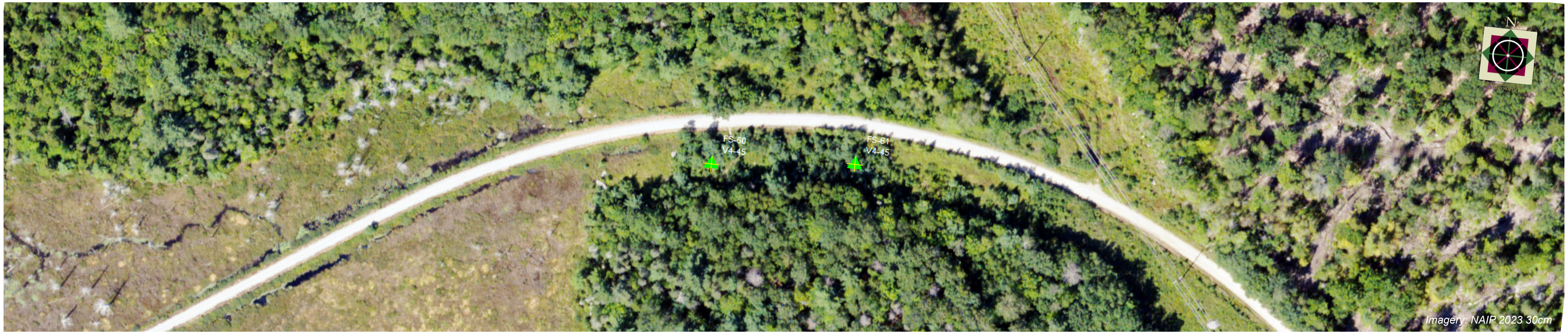
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **04/08/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: FS-60 station is the along rail trail in Sullivan, 5.15mi on the right from Rte 182. The station is a disk stamped --- FS-60 2010 --- set in concrete in a boulder. IT IS: 4' ENE of MWP w/ sign; 60.3' W of pole #525; 53'.0' S of CL of rail trail. in BK #370



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443516.87609 *Longitude: 681346.28642 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
FS-61

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **81541.998** EAST-2000 m: **678235.602** City: **SULLIVAN** County: **HAN**

NORTH-2000 sFT: **267525.705** EAST-2000 sFT: **2225177.971** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: FS-61 The station is located from the junction of Rte 182 and the Rail Trail 5.2 mi on the right. The station is a disk stamped --- FS-61 2010 --- cemented in a boulder. IT IS: 50.0' S of CL; 2.7' N of MWS; 28.7' WSW of pole #526. BK#370

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443400.71065 *Longitude: 680856.33888 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

MaineDOT Survey Control Points Report https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74701793

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
FS-70

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **79585.835** EAST-2000 m: **681076.021** City: **SULLIVAN** County: **HAN**

NORTH-2000 sFT: **261107.86** EAST-2000 sFT: **2234496.912** GPS: **Y**

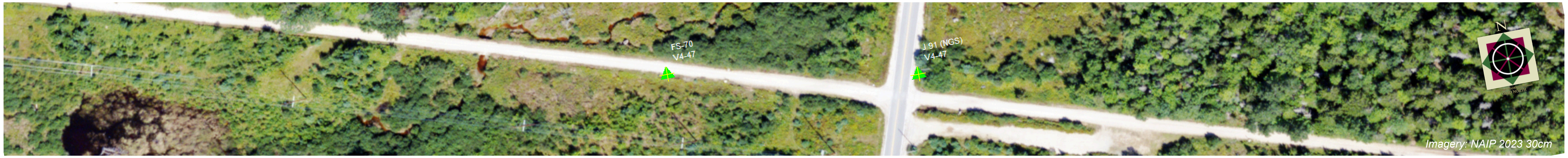
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **11/15/2010** Project: **01425900**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: FS-70 The station is located near the junction of Rail Trail and Rte 186 on the West side of Rte 186 it sees BM J-91. The station is a 4' rod and disk stamped --- FS-70 2010 --- driven subsurface in the shoulder of the trail. IT IS: 9.5' SSW of CL; 1.6' NE of MWP/MWS. BK#370 Companion is NGS BM J 91.



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443257.62575 *Longitude: 680647.35684 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

1 of 1 12 Jan 2026, 3:26 PM

MaineDOT Survey Control Points Report https://mdotapps.maine.gov/survey/cp_plus.html?objIDz=74698344

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
J 91 (NGS)

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(2011)** Type: **V**

NORTH-2000 m: **79566.249** EAST-2000 m: **681172.002** City: **SULLIVAN** County: **WAS**

NORTH-2000 sFT: **261043.602** EAST-2000 sFT: **2234811.81** GPS: **Y**

NAVD88 ELEV m: **60.477** NAVD88 ELEV sFT: **198.415** Order: **1**

Described By: **DRL** Date Set: **01/01/1942** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: J 91 (NGS) Permanent Mark. NGS NSRS2007RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1988 THE STATION WAS RECOVERED IN GOOD CONDITION, A NEW AND COMPLETE DESCRIPTION FOLLOWS. THE STATION IS LOCATED ABOUT 53.1 KM (33.00 MI) WEST-SOUTHWEST OF THE TOWN OF MACHIAS, 24.1 KM (15.00 MI) EAST OF ELLSWORTH, 8.0 KM (4.95 MI) NORTHEAST OF SULLIVAN AND 6.8 KM (4.25 MI) NORTH-NORTHEAST OF EAST SULLIVAN. OWNERSHIP--DEPARTMENT OF TRANSPORTATION, STATION 16, CHILD STREET, AUGUSTA, ME 04333. PHONE 207-289-2551. TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 1 AND STATE HIGHWAY 183 IN EAST SULLIVAN, GO NORTHERLY ON STATE HIGHWAY 183 FOR 1.5 KM (0.95 MI) TO A Y-FORK. BEAR RIGHT AND CONTINUE FOR 5.3 KM (3.30 MI) ON STATE HIGHWAY 183 TO THE CROSSING OF THE MAINE CENTRAL RAILROAD AND THE STATION JUST BEYOND ON THE RIGHT IN A BOULDER WHICH PROJECTS 75 CM ABOVE GROUND. THE STATION IS A STANDARD CGS BENCHMARK DISK SET INTO THE TOP OF A BOULDER WITH LARGEST DIMENSION OF 2.1 M (6.9 FT). LOCATED 7.32 M (24.0 FT) NORTH FROM THE NORTH RAIL OF THE TRACKS, 6.25 M (20.5 FT) WEST FROM UTILITY POLE 33-146 AND 6.1 M (20.0 FT) EAST-SOUTHEAST FROM THE CENTER OF THE HIGHWAY. SOUTHEAST MAINE SUBSIDENCE NETWORK, AUGUST 1986 AND OCTOBER 1988. DESCRIBED BY D.R. LOKKEN. STAMPING: J 91 1942 Companion is FS-70. Positonal value adjusted by the National Geodetic Survey, projected into ME2000 by MaineDOT. Superceeded coordinates NAD83(1996) ME2000 East Zone N:261043.647sFT E:2234811.757sFT

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	60.68
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	199.081
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443257.00025 *Longitude: 680643.00584 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

1 of 1 12 Jan 2026, 3:27 PM

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-10

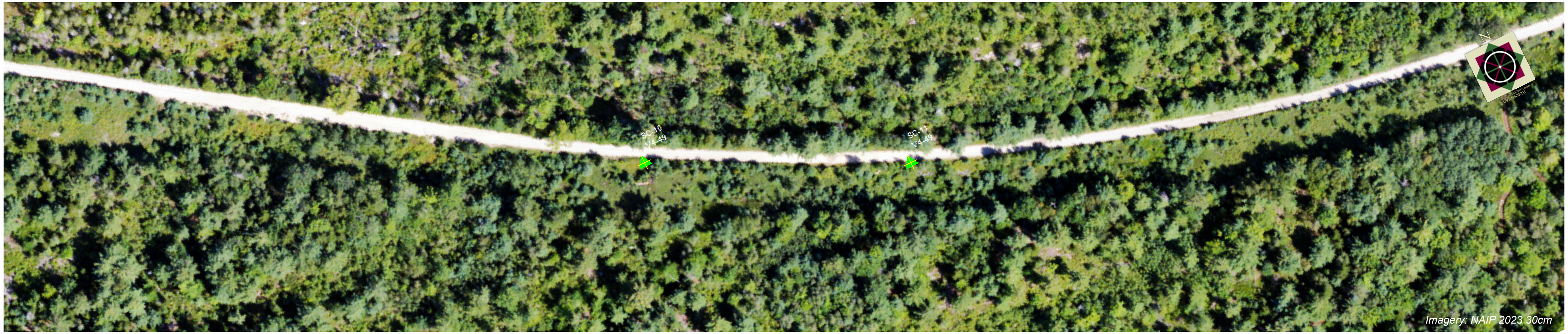
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **78019.429**
EAST-2000 m: **683102.556**
City: **T7 SD**
County: **HAN**
NORTH-2000 sFT: **255968.743**
EAST-2000 sFT: **2241145.636**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **VP**
Date Set: **11/15/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-10 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 1.6mi on the right. The station is a 4' rod and disk stamped --- SC-10 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 15.5' to CL; 4.5' to MWP. BK#375



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443207.06007 *Longitude: 443207.06007 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-11

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **77971.459**
EAST-2000 m: **683199.377**
City: **T7 SD**
County: **HAN**
NORTH-2000 sFT: **255811.362**
EAST-2000 sFT: **2241463.289**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **JME**
Date Set: **11/15/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-11 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 1.7mi on the right. The station is a disk stamped --- SC-11 2010 --- cemented in an outcrop of ledge about 3' above the R/T. IT IS: 11.0' SW of CL; 8.0' E of MWP. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443205.51413 *Longitude: 680510.96895 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-20

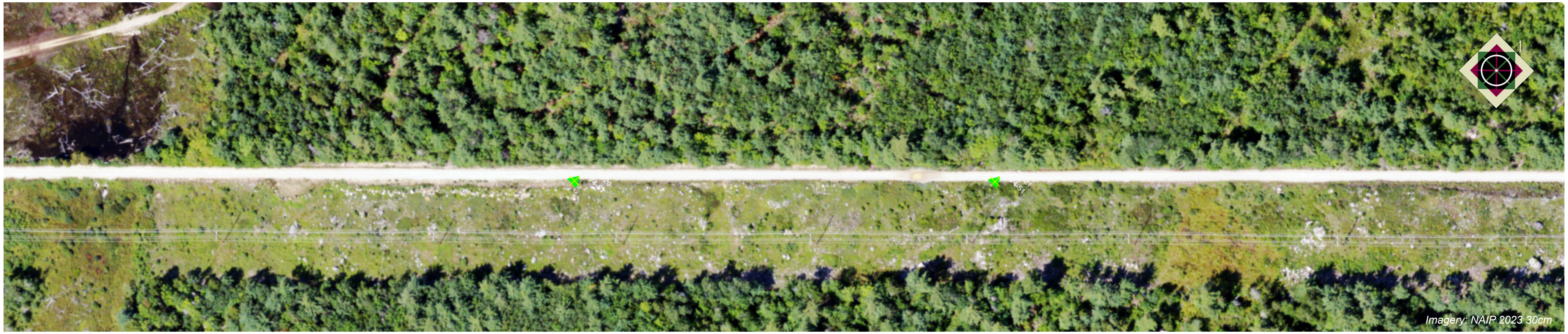
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **79696.603**
EAST-2000 m: **685682.967**
City: **T7 SD**
County: **HAN**
NORTH-2000 sFT: **261471.272**
EAST-2000 sFT: **2249611.534**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **PAL**
Date Set: **11/15/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-20 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 3.6mi on the right. The station is a disk stamped --- SC-20 2010 --- cemented in an outcrop of ledge about 4.5' above the R/T. IT IS: 10.4' SSE of CL; 10.5' WNW of MWP. BK#375



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443301.59653 *Longitude: 443301.59653 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-21

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **79827.257**
EAST-2000 m: **685815.161**
City: **T7 SD**
County: **HAN**
NORTH-2000 sFT: **261899.926**
EAST-2000 sFT: **2250045.241**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **DR**
Date Set: **11/15/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-21 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 3.8mi on the right. The station is a disk stamped --- SC-21 2010 --- cemented in a lager boulder. IT IS: 10.4' SE of CL; 5.7' N of MWP. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443305.83874 *Longitude: 680312.67373 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-30

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **81771.188** EAST-2000 m: **688024.853** City: **T7 SD** County: **HAN**

NORTH-2000 sFT: **268277.639** EAST-2000 sFT: **2257294.872** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-30 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 5.7mi on the right. The station is a 4' rod and disk stamped --- SC-30 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 12.0' to CL; 4.0' to MWP. BK#375 Companion Station is NGS Benchmark S 7.

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
S 7 (NGS)

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **B**

NORTH-2000 m: **81753.01** EAST-2000 m: **688218.73** City: **T7 SD** County: **HAN**

NORTH-2000 sFT: **268218** EAST-2000 sFT: **2257930.95** GPS: **Y**

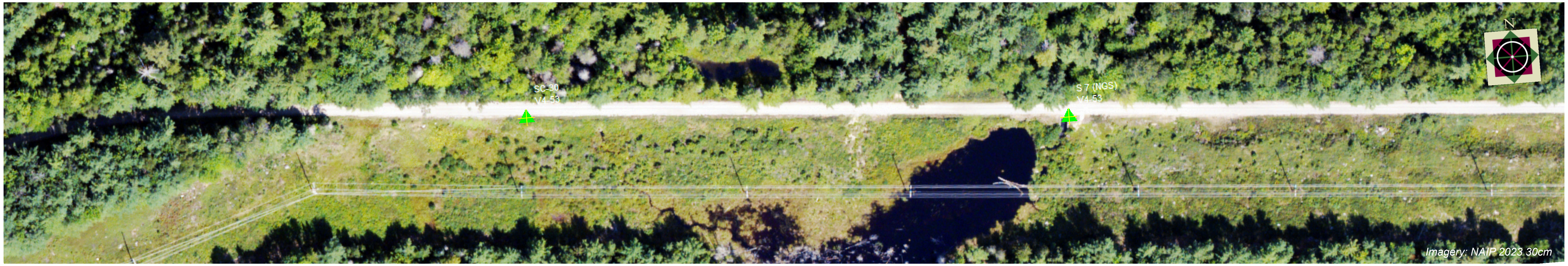
NAVD88 ELEV m: **50.777** NAVD88 ELEV sFT: **166.591** Order: **1**

Described By: **NGS** Date Set: **01/01/1927** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

Designation: S 7 (NGS) DESCRIBED BY COAST AND GEODETIC SURVEY 1966 5.8 MI E FROM TUNK LAKE. 5.8 MILES EAST ALONG THE MAINE CENTRAL RAILROAD FROM THE CROSSING OF STATE HIGHWAY 183 AT TUNK LAKE, ABOUT 9 1/4 RAILS NORTHWEST OF MILEPOST P191/C79, IN THE TOP OF THE SOUTHWEST CONCRETE HEAD WALL FOR A 10 FOOT STONE BOX CULVERT OVER A STREAM, 9.5 FEET SOUTHWEST OF THE SOUTHWEST RAIL, 1.2 FEET NORTHWEST OF THE SOUTHEAST END OF THE HEAD WALL, AND ABOUT 1 1/2 FEET BELOW THE LEVEL OF THE TRACK. PE0081_MARKER: DB = BENCH MARK DISK SETTING: 30 = SET IN A LIGHT STRUCTURE SET: CULVERT STAMPING: S 7 1927 167.306 MARK OF QUESTIONABLE OR UNKNOWN STABILITY Companion Station is SC-30.



NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443408.96059 *Longitude: 680132.722 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	**50.984**
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	**167.27**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 0 *Longitude: 0 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-40

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **82671.124** EAST-2000 m: **690704.152** City: **STEUBEN** County: **WAS**

NORTH-2000 sFT: **271230.179** EAST-2000 sFT: **2266085.205** GPS: **Y**

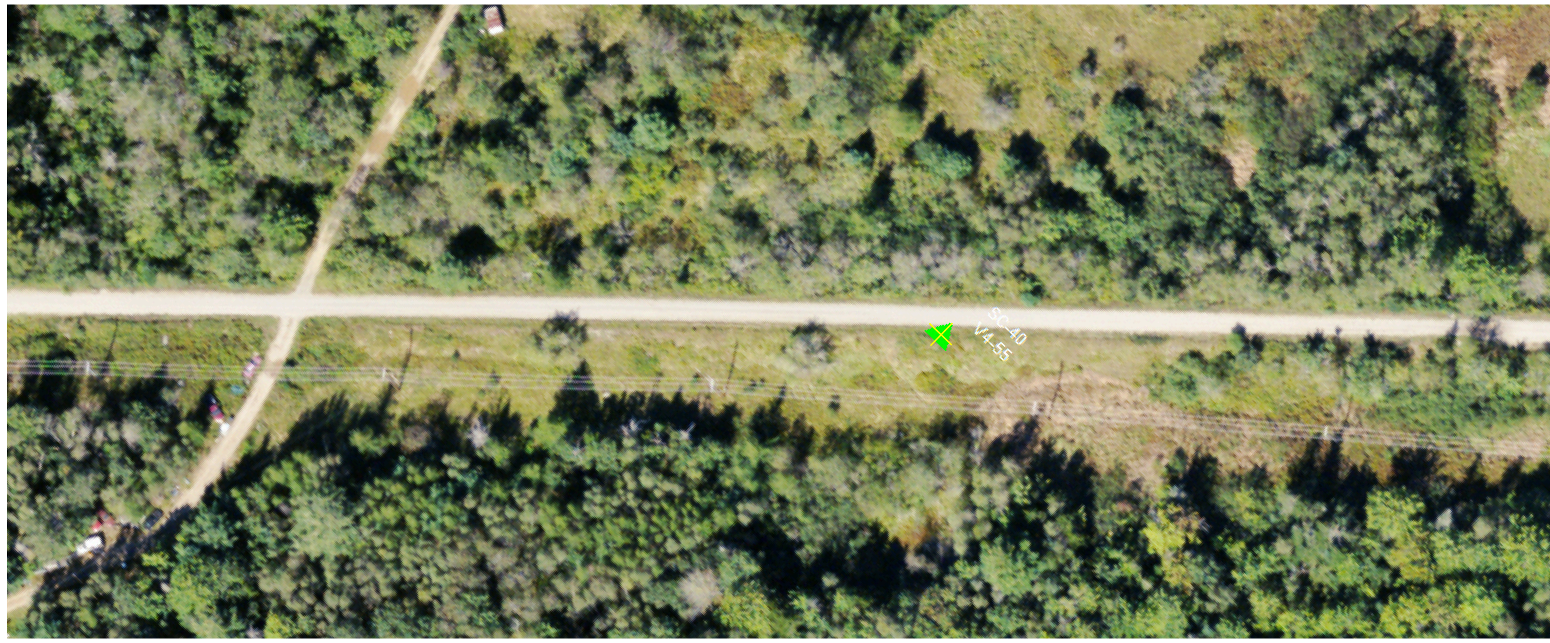
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-40 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 7.5mi on the right, also West of the junction of Unionville Rd. The station is a 4' rod and disk stamped --- SC-40 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 11.2' SSE CL; 5.6' E MWP. BK#375



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443438.25816 *Longitude: 675931.35306 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-41

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **B**

NORTH-2000 m: **82814.711** EAST-2000 m: **690857.095** City: **STUEBEN** County: **WAS**

NORTH-2000 sFT: **271701.264** EAST-2000 sFT: **2266586.986** GPS: **Y**

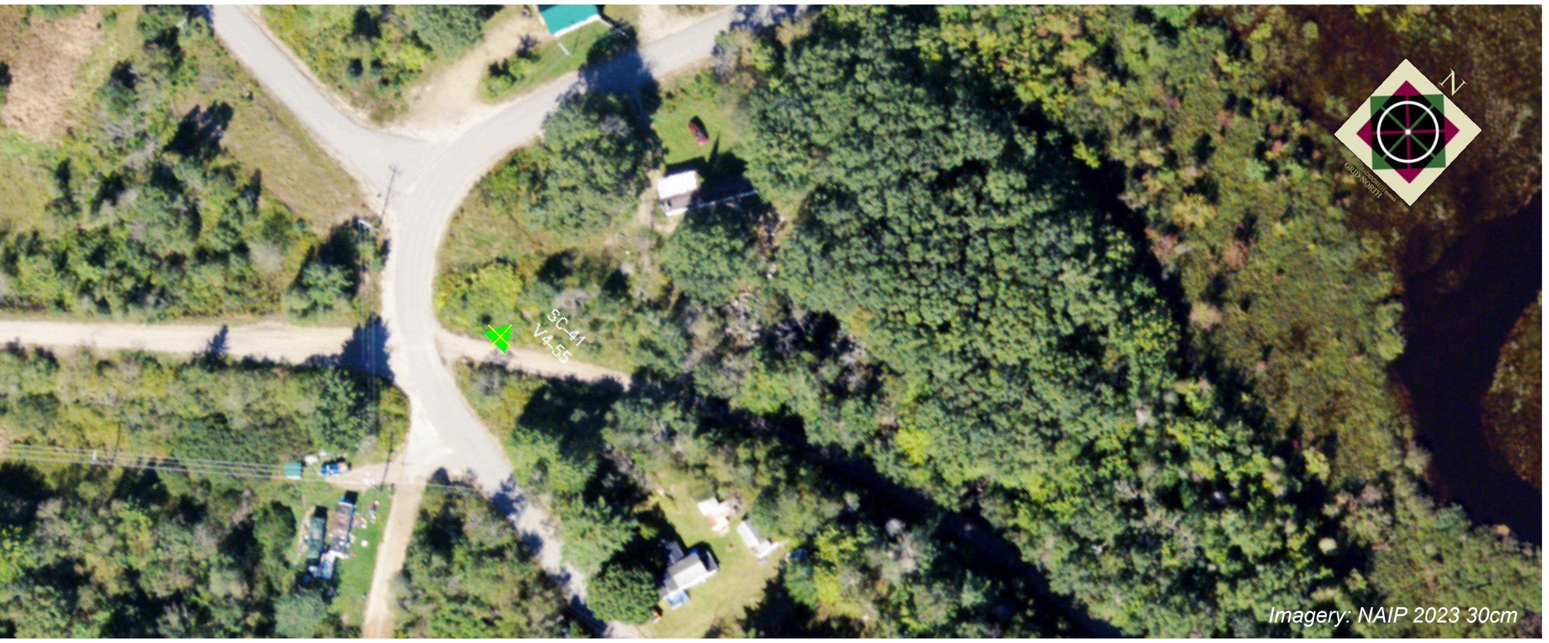
NAVD88 ELEV m: **30.154** NAVD88 ELEV sFT: **98.93** Order:

Described By: **DR** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-41 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 7.6mi on the left, also Easterly of the junction of Unionville Rd. The station is a 4' rod and disk stamped --- SC-41 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 9.6' N of CL; 3.1' S MWP; 24.7' E of pole #854/ 1/2. BK#375



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443442.91698 *Longitude: 675924.42981 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

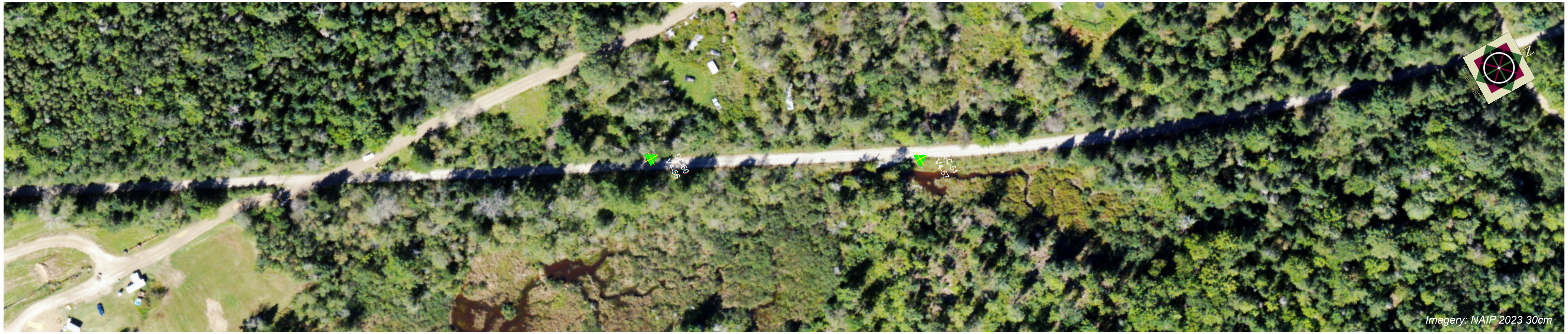
Control Point Description
NAD 83 DATUM - METRIC
SC-50

ME2000 Zone:	**E**	Adjustment:	**NAD83(1996)**	Type:	**H**		
NORTH-2000 m:	**83594.062**	EAST-2000 m:	**692630.267**	City:	**STEUBEN**	County:	**WAS**
NORTH-2000 sFT:	**274258.185**	EAST-2000 sFT:	**2272404.468**	GPS:	**Y**		
NAVD88 ELEV m:	**0**	NAVD88 ELEV sFT:	**0**	Order:			
Described By:	**VP**	Date Set:	**11/15/2010**	Project:	**014259.00**		

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-50 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 9.0mi on the left. The station is a 4' rod and disk stamped --- SC-50 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 14.0' CL; 4.0' MWP. BK#375



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE - NAD83 (1992)			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443508.23874 *Longitude: 675804.09571 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
SC-51

ME2000 Zone:	**E**	Adjustment:	**NAD83(1996)**	Type:	**H**		
NORTH-2000 m:	**83690.523**	EAST-2000 m:	**692685.526**	City:	**STEUBEN**	County:	**WAS**
NORTH-2000 sFT:	**274574.658**	EAST-2000 sFT:	**2272585.763**	GPS:	**Y**		
NAVD88 ELEV m:	**0**	NAVD88 ELEV sFT:	**0**	Order:			
Described By:	**JME**	Date Set:	**11/15/2010**	Project:	**014259.00**		

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-51 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 9.1mi on the right. The station is a 4' rod and disk stamped --- SC-51 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 8.8' ESE of CL; 5.0' WSW of MWP. BK#375

NAD83 (1986)		- ZONE - NAD83 (1992)			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443511.36581 *Longitude: 675801.59556 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-60

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **ME2000 EAST** Adjustment: **NAD83(2011)** Type: **H**

NORTH-2000 m: **85574.153** EAST-2000 m: **694739.362** City: **CHERRYFIELD** County: **WAS**

NORTH-2000 sFT: **280754.534** EAST-2000 sFT: **2279324.057** GPS: **Y**

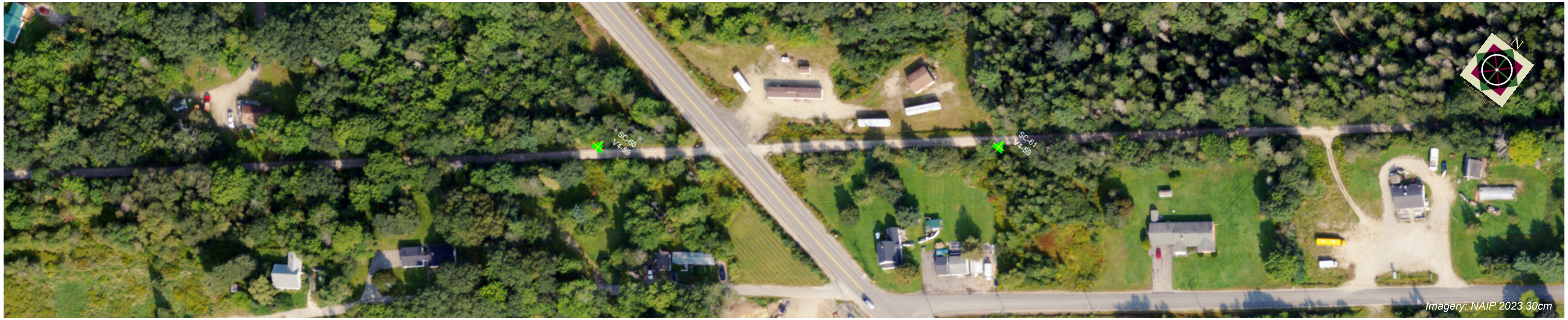
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **11/15/2010** Project: **020405.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-60 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 11.1mi on the left, also West of the junction of Rte 182. The station is a 4' rod and disk stamped --- SC-60 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 10.1' SSE of CL; 8.4' ESE of MWP. BK#375 Superceeded NAD83(1996) ME2000 East Zone Coordinates N:85574.172m E:694739.348. Surveyed under PIN 014925.00.



NAD83 (1986)		- ZONE - **NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443612.45415 *Longitude: 675628.55602 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-61

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **85676.622** EAST-2000 m: **694876.758** City: **CHERRYFIELD** County: **WAS**

NORTH-2000 sFT: **281090.717** EAST-2000 sFT: **2279774.83** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-61 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 11.2mi on the right, also East of the junction of Rte 182. The station is a 4' rod and disk stamped --- SC-61 2010 ---driven subsurface in the shoulder of the R/T. IT IS: 9.0' S of CL; 3.2' NW of MWP; 6.8' W of 4x4 sign post. BK#375

NAD83 (1986)		- ZONE - **NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443400.71087 *Longitude: 680856.3394 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-70

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**

NORTH-2000 m: **86265.186**
EAST-2000 m: **695889.392**
City: **CHERRYFIELD**
County: **WAS**

NORTH-2000 sFT: **283021.698**
EAST-2000 sFT: **2283097.114**
GPS: **Y**

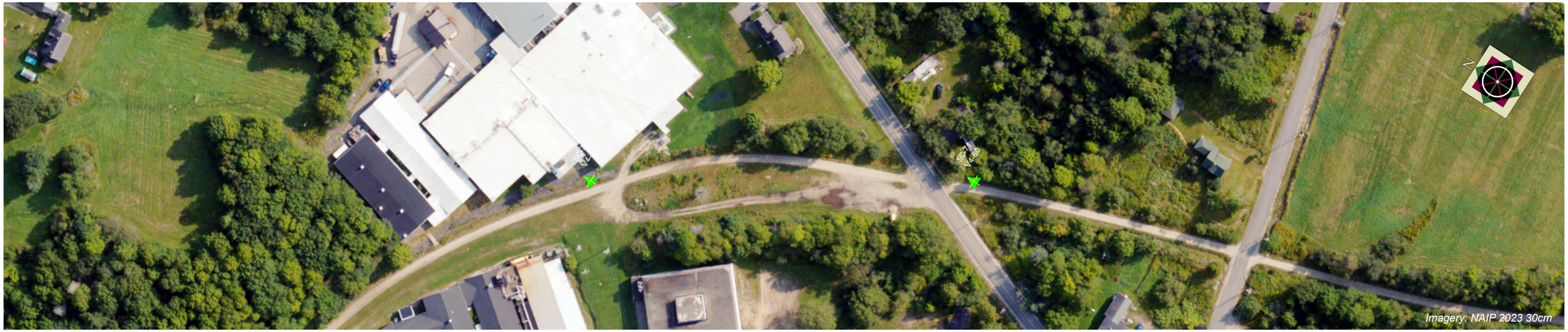
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:

Described By: **VP**
Date Set: **11/15/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-70 Permanent Mark. The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 12.1mi on the left. The station is a disk stamped --- SC-70 2010 --- set in concrete pad by Cherryfield foods loading dock. IT IS: 11.0' of CL; 5.5' of loading dock. BK#375



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443634.86839 *Longitude: 675536.42513 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
SC-71

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**

NORTH-2000 m: **86130.631**
EAST-2000 m: **695973.425**
City: **CHERRYFIELD**
County: **WAS**

NORTH-2000 sFT: **282580.245**
EAST-2000 sFT: **2283372.812**
GPS: **Y**

NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:

Described By: **JME**
Date Set: **11/15/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: SC-71 The station is located from the junction of Rte 183 and the Rail Trail, head Easterly of Rail Trail for 12.2mi on the right, also near the junction of Rte 193. The station is a 4' rod and disk stamped--- .SC-71 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 9.5' E of CL; 29.7' S of 4x4 post with stop sign and MWS. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443630.51095 *Longitude: 675532.61025 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-10

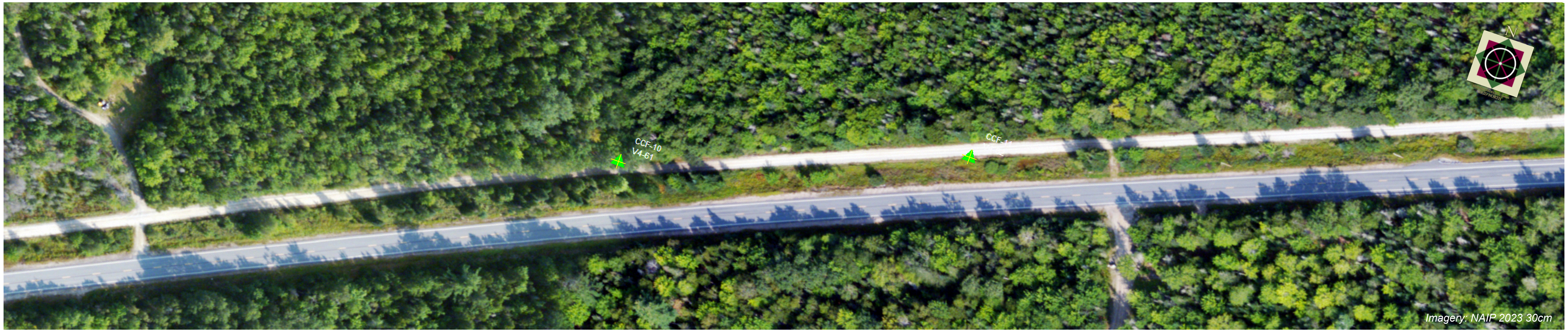
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **85977.649**
EAST-2000 m: **698605.65**
City: **MILBRIDGE**
County: **WAS**
NORTH-2000 sFT: **282078.337**
EAST-2000 sFT: **2292008.703**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **PAL**
Date Set: **11/15/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-10 The station is located from the junction of Rte193 and the R/T, head Easterly for 1.8mi to the station on the left. The station is a 4' rod and disk stamped --- CCF-10 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 10.6' N of CL; 6.7' S of MWS on 8" Popular tree. BK#375



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443625.5905 *Longitude: 675333.23405 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
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Control Point Description
NAD 83 DATUM - METRIC
CCF-11

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **86022.725**
EAST-2000 m: **698735.847**
City: **CHERRYFIELD**
County: **WAS**
NORTH-2000 sFT: **282226.224**
EAST-2000 sFT: **2292435.858**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **DR**
Date Set: **11/15/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-11 The station is located from the junction of Rte193 and the R/T, head Easterly for 1.9mi to the station on the right. The station is a 4' rod and disk stamped --- CCF-11 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 11.0' S of CL; 2.8' N of MWP. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443627.05169 *Longitude: 675327.32999 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-20

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **86940.784** EAST-2000 m: **701625.157** City: **HARRINGTON** County: **WAS**

NORTH-2000 sFT: **285238.222** EAST-2000 sFT: **2301915.203** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **VP** Date Set: **11/15/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-20 The station is located from the junction of Rte193 and the R/T, head Easterly for 3.8mi to the station on the right. The station is a 4' rod and disk stamped --- CCF-20 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 9.5' to CL; 2.0' of MWP. BK#375

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-21

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **86968.713** EAST-2000 m: **701746.206** City: **HARRINGTON** County: **WAS**

NORTH-2000 sFT: **285329.853** EAST-2000 sFT: **2302312.344** GPS: **Y**

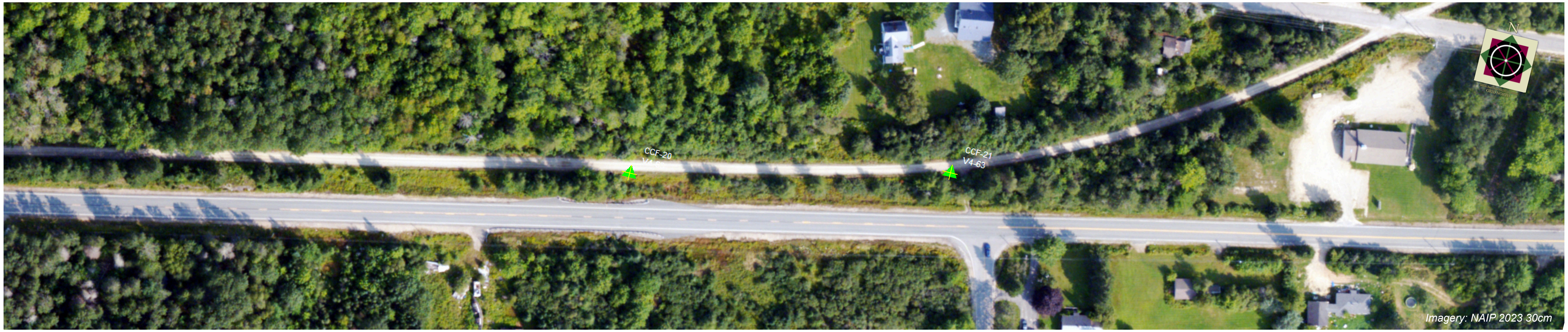
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **JME** Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-21 The station is located from the junction of Rte193 and the R/T, head Easterly for 3.9 mi to the station on the right. The station is a 4' rod and disk stamped --- CCF-21 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 11.0 S of CL; 2.0' N of MWP; 13.8' W of CL of 4 wheeler trail. BK#375



Imagery: NAIP 2023 30cm

CCF-20

NAD83 (1986)		- ZONE -	NAD83 (1992)		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443656.79128 *Longitude: 675116.28785 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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CCF-21

NAD83 (1986)		- ZONE -	NAD83 (1992)		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443657.69507 *Longitude: 675110.79709 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-30

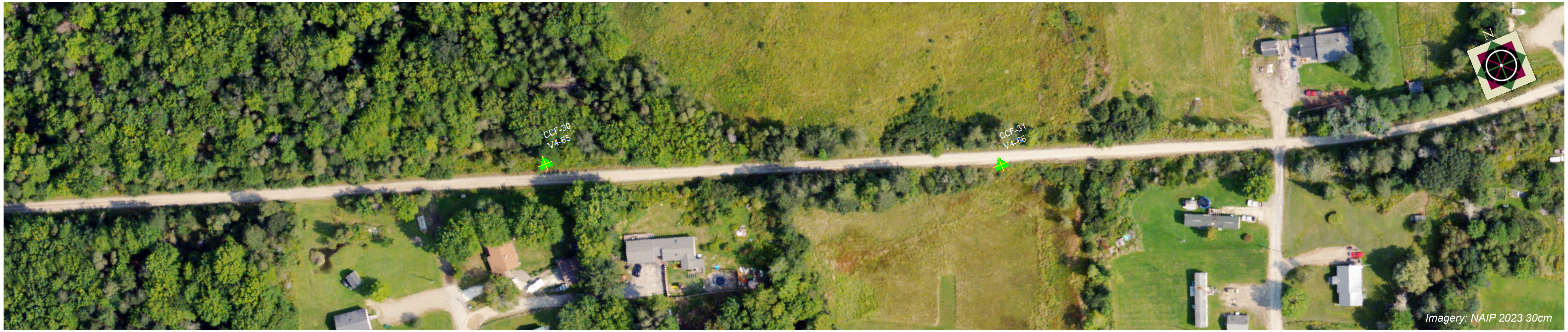
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**
NORTH-2000 m: **87793.63** EAST-2000 m: **704517.346** City: **HARRINGTON** County: **WAS**
NORTH-2000 sFT: **288036.268** EAST-2000 sFT: **2311403.993** GPS: **Y**
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:
Described By: Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-30 The station is located from the junction of Rte193 and the R/T, head Easterly for 5.9mi to the station on the left. The station is a 4' rod and disk stamped --- CCF-30 2010 --- driven subsurface in the shoulder of the R/T. IT IS ** NO TIES, BUSY CHANGING FLAT TIRE**. BK#375



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443724.3763 *Longitude: 674905.08005 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
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Control Point Description
NAD 83 DATUM - METRIC
CCF-31

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**
NORTH-2000 m: **87726.206** EAST-2000 m: **704675.71** City: **HARRINGTON** County: **WAS**
NORTH-2000 sFT: **287815.061** EAST-2000 sFT: **2311923.559** GPS: **C**
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:
Described By: **DR** Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-31 The station is located from the junction of Rte193 and the R/T, head Easterly for 6.0mi to the station on the right. The station is a 4' rod and disk stamped --- CCF-31 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 10.0' SSW of CL; 6.8' WNW of MWS on 4x4 post. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443722.18833 *Longitude: 674857.89841 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-40

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **89504.864** EAST-2000 m: **706673.049** City: **COLUMBIA** County: **WAS**

NORTH-2000 sFT: **293650.541** EAST-2000 sFT: **2318476.495** GPS: **Y**

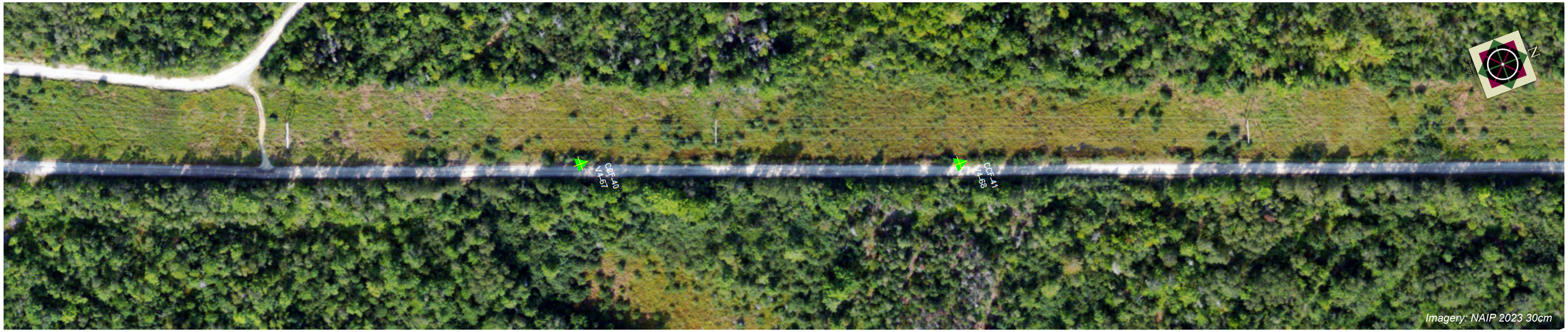
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **VP** Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-40 The station is located from the junction of Rte193 and the R/T, head Easterly for 7.9mi to the station on the left. The station is a 4' rod and disk stamped --- CCF-40 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 9.5' to CL; 4.0' of MWP. BK#375



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443819.75424 *Longitude: 674727.21112 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
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Control Point Description
NAD 83 DATUM - METRIC
CCF-41

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **89645.57** EAST-2000 m: **706727.905** City: **COLUMBIA** County: **WAS**

NORTH-2000 sFT: **294112.174** EAST-2000 sFT: **2318656.468** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **JME** Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-41 The station is located from the junction of Rte193 and the R/T, head Easterly for 8.0mi to the station on the left. The station is a 4' rod and disk stamped --- CCF-41 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 9.0' WNW of CL; 7.1' ENE of MWP. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443824.31081 *Longitude: 674724.7154 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-50

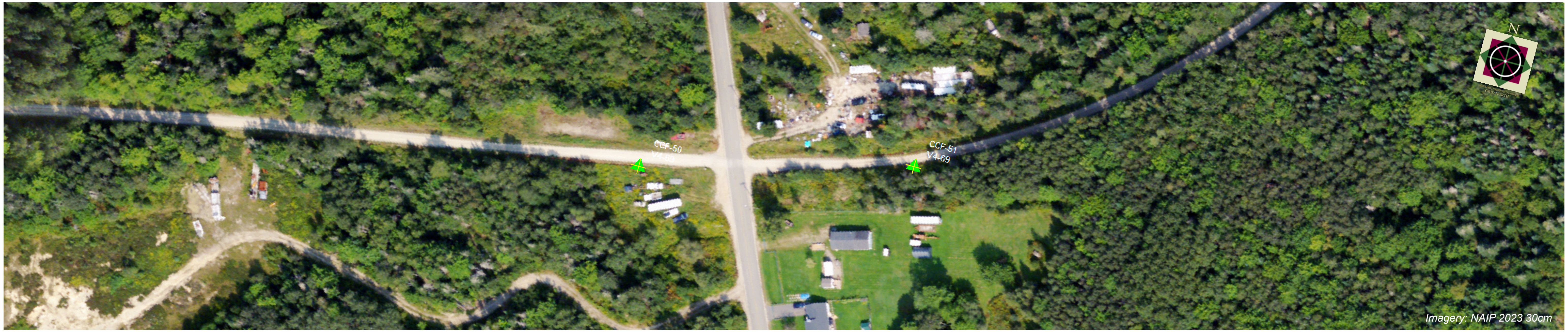
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone:	**E**	Adjustment:	**NAD83(1996)**	Type:	**H**		
NORTH-2000 m:	**91666.492**	EAST-2000 m:	**708015.627**	City:	**COLUMBIA**	County:	**WAS**
NORTH-2000 sFT:	**300742.483**	EAST-2000 sFT:	**2322881.27**	GPS:	**Y**		
NAVD88 ELEV m:	**0**	NAVD88 ELEV sFT:	**0**	Order:			
Described By:	**PAL**	Date Set:	**11/16/2010**	Project:	**014259.00**		

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-50 The station is located from the junction of Rte193 and the R/T, head Easterly for 9.6mi to the station on the right. The station is a 4' rod and disk stamped --- CCF-50 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 11.4' S of CL; 1.4' N of MWP. BK#375



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	**0**	NORTH m	**0**	NGVD 29 ELEV m	**0**
EAST m	**0**	EAST m	**0**	NGVD 29 ELEV sFT	**0**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443929.73421 *Longitude: 674626.17029 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-51

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone:	**E**	Adjustment:	**NAD83(1996)**	Type:	**H**		
NORTH-2000 m:	**91691.84**	EAST-2000 m:	**708116.564**	City:	**COLUMBIA**	County:	**WAS**
NORTH-2000 sFT:	**300825.645**	EAST-2000 sFT:	**2323212.427**	GPS:	**Y**		
NAVD88 ELEV m:	**0**	NAVD88 ELEV sFT:	**0**	Order:			
Described By:	**DR**	Date Set:	**11/16/2010**	Project:	**014259.00**		

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-51 The station is located from the junction of Stratton Rd and the R/T, head Easterly for 0.04 mi to the station on the right. The station is a 4' rod and disk stamped --- CCF-51 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 10.6' S of CL; 2.8' N of MWP; 215' +/- E of CL of Columbia Station Rd. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	**0**	NORTH m	**0**	NGVD 29 ELEV m	**0**
EAST m	**0**	EAST m	**0**	NGVD 29 ELEV sFT	**0**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443930.55132 *Longitude: 674621.58732 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-60

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **92863.986** EAST-2000 m: **709873.343** City: **COLUMBIA** County: **WAS**

NORTH-2000 sFT: **304671.261** EAST-2000 sFT: **2328976.126** GPS: **Y**

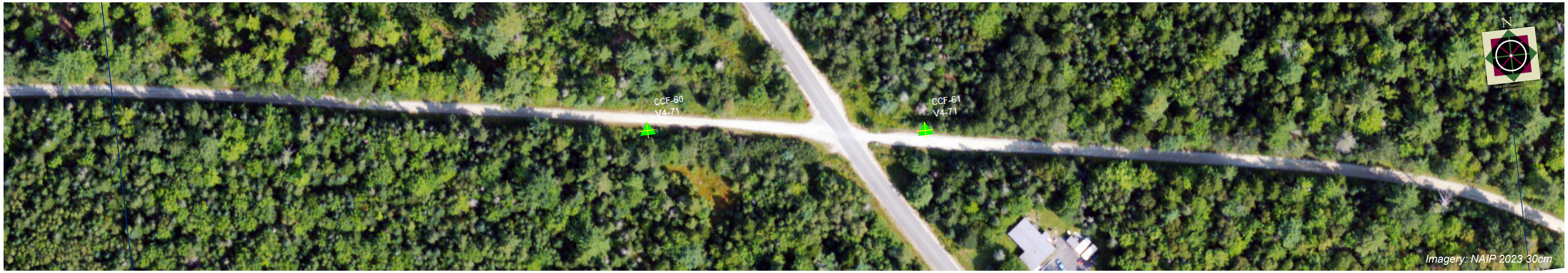
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **BMD** Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-60 The station is located from the junction of Stratton Rd and the R/T, head Easterly for 1.6 mi to the station on the right. The station is a 4' rod and disk stamped --- CCF-60 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 14.8' of CL; 8.2' of MWP. BK#375



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444008.44552 *Longitude: 674501.76562 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-61

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **92851.279** EAST-2000 m: **709973.392** City: **COLUMBIA FALLS** County: **WAS**

NORTH-2000 sFT: **304629.571** EAST-2000 sFT: **2329304.37** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **JME** Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-61 The station is located from the junction of Stratton Rd and the R/T, head Easterly for 1.7 mi to the station on the left. The station is a 4' rod and disk stamped --- CCF-61 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 10.7' NE of CL; 1.7' SW of MWP. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444008.02888 *Longitude: 674457.22445 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-70

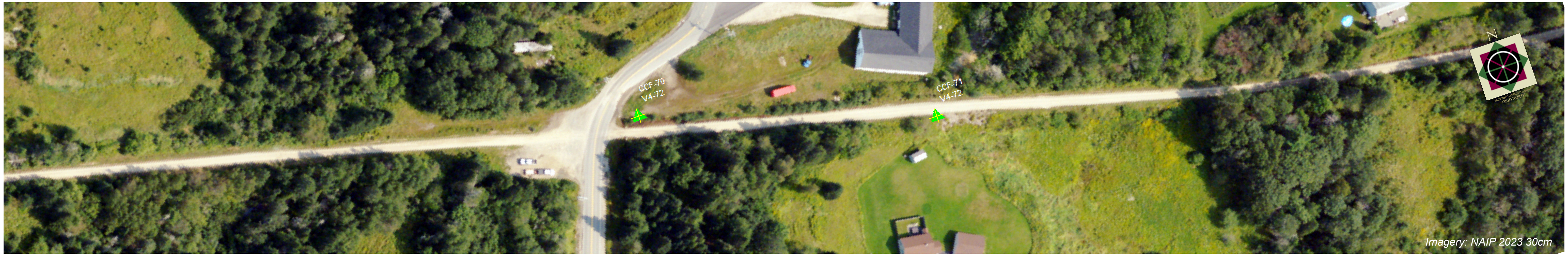
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **91558.021**
EAST-2000 m: **711702.316**
City: **COLUMBIA FALLS**
County: **WAS**
NORTH-2000 sFT: **300386.607**
EAST-2000 sFT: **2334976.682**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **PAL**
Date Set: **11/16/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-70 The station is located from the junction of Stratton Rd and the R/T, head Easterly for 3.1 mi to the station on the left. The sation is aprox 4' above the R/T behind a retaining wall at the junction of Tibbitts Town Rd. The station is a 4' rod and disk stamped --- CCF-70 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 19.6' NE of CL; 2.4' NE of retaining wall; 11.5' ENE of 12" Blk culvert pipe. BK#375



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443926.038 *Longitude: 674338.84067 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-71

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **91518.745**
EAST-2000 m: **711813.74**
City: **COLUMBIA FALLS**
County: **WAS**
NORTH-2000 sFT: **300257.749**
EAST-2000 sFT: **2335342.245**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **DR**
Date Set: **11/16/2010**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-71 The station is located from the junction of Stratton Rd and the R/T, head Easterly for 3.2 mi to the station on the right. The station is a 4' rod and disk stamped --- CCF-71 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 10.5' NE of CL; 3.5' NE of MWP. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443924.75904 *Longitude: 674333.7865 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-80

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**

Adjustment: **NAD83(1996)**

Type: **H**

NORTH-2000 m: **92184.389**

EAST-2000 m: **714869.151**

City: **COLUMBIA FALLS**

County: **WAS**

NORTH-2000 sFT: **302441.616**

EAST-2000 sFT: **2345366.54**

GPS: **Y**

NAVD88 ELEV m: **0**

NAVD88 ELEV sFT: **0**

Order:

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

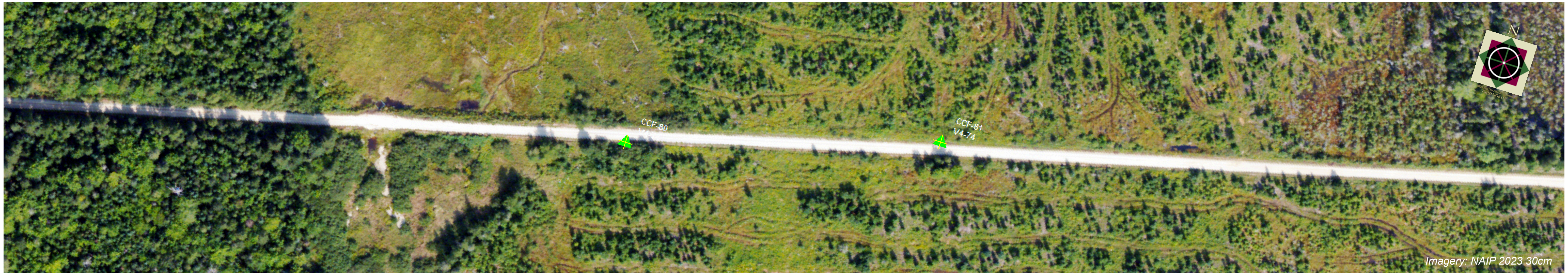
Described By: **BMD**

Date Set: **11/16/2010**

Project: **014259.00**

Description

STATION NAME: CCF-80 The station is located from the junction of Stratton Rd and the R/T, head Easterly for 5.1 mi to the station on the right. The station is a 4' rod and disk stamped --- CCF-80 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 10.5' of CL; 4.0' of MWP. BK#375



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443946.11925 *Longitude: 674115.03571 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-81

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**

Adjustment: **NAD83(1996)**

Type: **H**

NORTH-2000 m: **92220.127**

EAST-2000 m: **714988.134**

City: **COLUMBIA FALLS**

County: **WAS**

NORTH-2000 sFT: **302558.867**

EAST-2000 sFT: **2345756.903**

GPS: **Y**

NAVD88 ELEV m: **0**

NAVD88 ELEV sFT: **0**

Order:

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Described By: **JME**

Date Set: **11/16/2010**

Project: **014259.00**

Description

STATION NAME: CCF-81 The station is located from the junction of Stratton Rd and the R/T, head Easterly for 5.2 mi to the station on the left. The station is a 4' rod and disk stamped --- CCF-81 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 9.3' N of CL; 5.7' S of MWP. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 443947.26813 *Longitude: 674109.63091 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-90

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **92975.997** EAST-2000 m: **718050.481** City: **JONESBORO** County: **WAS**

NORTH-2000 sFT: **305038.75** EAST-2000 sFT: **2355803.953** GPS: **Y**

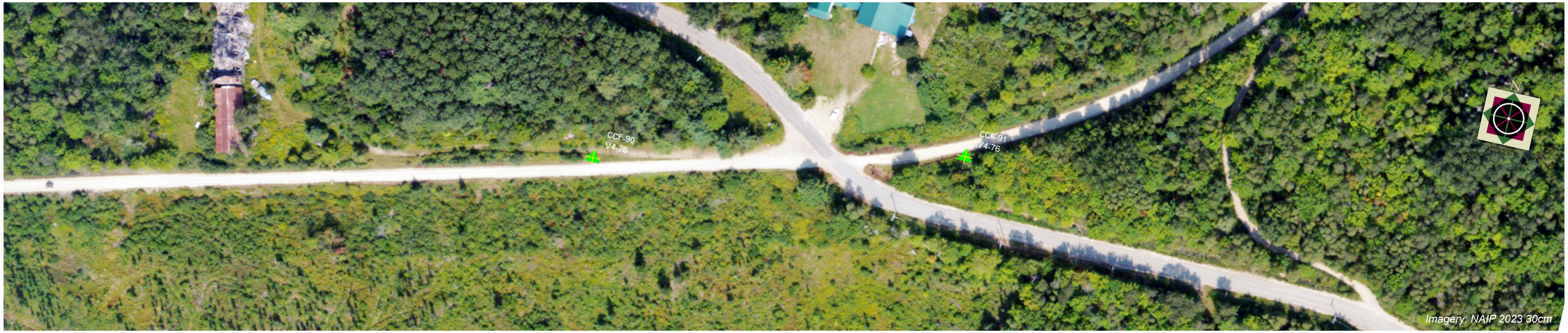
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-90 The station is located from the junction of Stratton Rd and the R/T, head Easterly for 7.2 mi to the station on the left; also aprox 310' West of junction of Jonesboro Rd (AKA Factory Rd). The station is a 4' rod and disk stamped --- CCF-90 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 21.4' N of CL; 19.9' S of MWP. BK#375



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444011.50196 *Longitude: 673850.52436 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CCF-91

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **93006.291** EAST-2000 m: **718191.192** City: **JONESBORO** County: **WAS**

NORTH-2000 sFT: **305138.14** EAST-2000 sFT: **2356265.602** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CCF-91 The station is located from the junction of Stratton Rd and the R/T, head Easterly for 7.4 mi to the station on the right; also aprox 155' E of Jonesboro Rd (AKA Factory Rd). The station is a 4' rod and disk stamped --- CCF-91 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 14.6' S of CL; 10.1' ESE of MWS on 4x4 post. BK#375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444012.47059 *Longitude: 673844.13239 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CFW-10

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**

Adjustment: **NAD83(1996)**

Type: **H**

NORTH-2000 m: **95534.087**

EAST-2000 m: **719995.311**

City: **JONESBORO**

County: **WAS**

NORTH-2000 sFT: **313431.417**

EAST-2000 sFT: **2362184.616**

GPS: **Y**

NAVD88 ELEV m: **0**

NAVD88 ELEV sFT: **0**

Order:

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

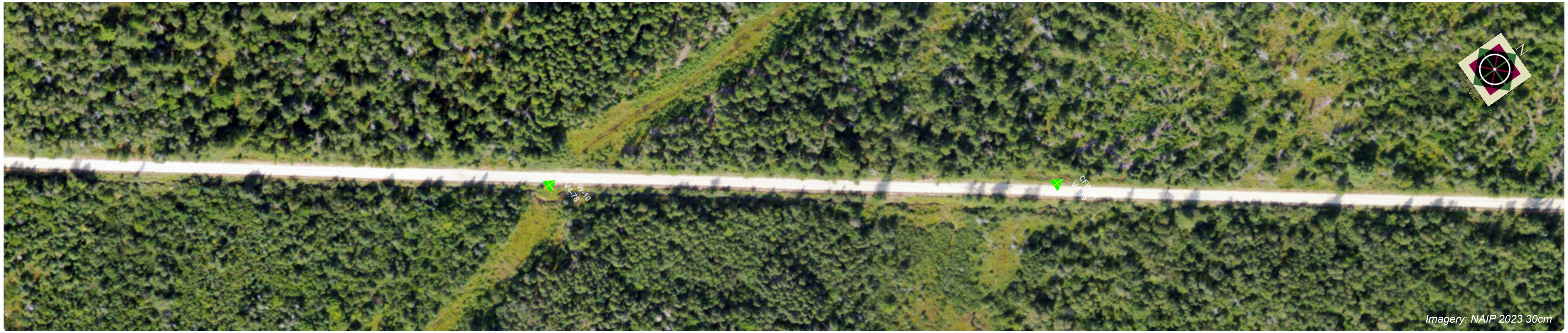
Described By: **BMD**

Date Set: **11/16/2010**

Project: **014259.00**

Description

STATION NAME: CFW-10 The station is located from the junction of Jonesboro Station Rd and R/T, head Easterly on R/T for 2.0 mi to the station on the right. The station is 4' rod stamped --- CFW-10 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 10.0' to CL; 2.8' to MWP. BK# 375



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m		0	NGVD 29 ELEV m	0
EAST m	0	EAST m		0	NGVD 29 ELEV sFT	0
SOURCE						

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444134.1887 *Longitude: 673721.8721 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CFW-11

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**

Adjustment: **NAD83(1996)**

Type: **H**

NORTH-2000 m: **95708.581**

EAST-2000 m: **720122.124**

City: **JONESBORO**

County: **WAS**

NORTH-2000 sFT: **314003.903**

EAST-2000 sFT: **2362600.668**

GPS: **Y**

NAVD88 ELEV m: **0**

NAVD88 ELEV sFT: **0**

Order:

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Described By: **JME**

Date Set: **11/16/2010**

Project: **014259.00**

Description

STATION NAME: CFW-11 The station is located from the junction of Jonesboro Station Rd and R/T, head Easterly on R/T for 2.1 mi to the station on the left. The station is 4' rod stamped --- CFW-11 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 10.3' NNW of CL; 4.0' SSW of MWP. BK# 375

NAD83 (1986)		- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m		0	NGVD 29 ELEV m	0
EAST m	0	EAST m		0	NGVD 29 ELEV sFT	0
SOURCE						

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444139.82886 *Longitude: 673716.08799 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CFW-20

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **97137.42** EAST-2000 m: **722686.948** City: **CENTERVILLE** County: **WAS**

NORTH-2000 sFT: **318691.685** EAST-2000 sFT: **2371015.429** GPS: **Y**

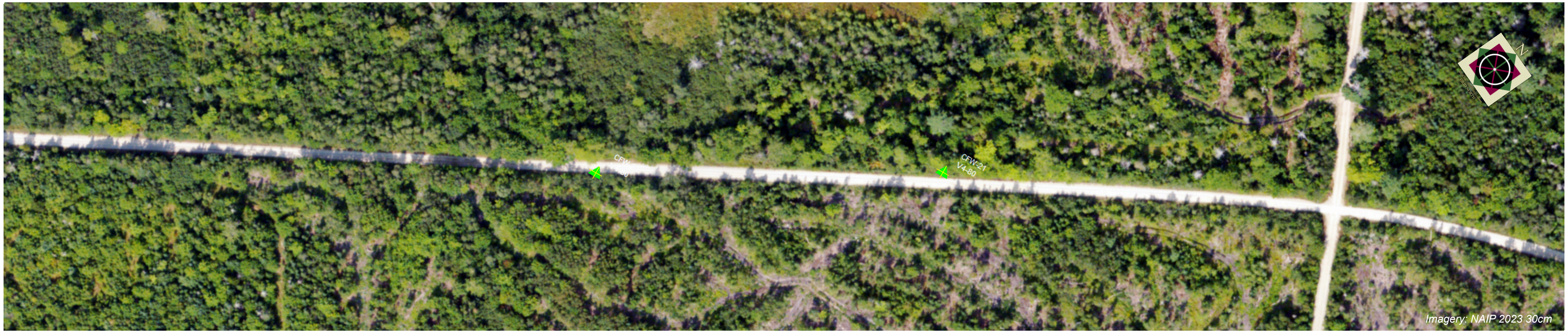
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CFW-20 The station is located from the junction of Jonesboro Station Rd and R/T, head Easterly on R/T for 4.0 mi to the station on the right. The station is 4' rod stamped --- CFW-20 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 10.0' S of CL; 4.6' W of MWP. BK# 375



NAD83 (1986)		- ZONE - NAD83 (1992)			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444225.84198 *Longitude: 673519.37141 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CFW-21

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **97207.8** EAST-2000 m: **722815.351** City: **CENTERVILLE** County: **WAS**

NORTH-2000 sFT: **318922.59** EAST-2000 sFT: **2371436.697** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **11/16/2010** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CFW-21 The station is located from the junction of Jonesboro Station Rd and R/T, head Easterly on R/T for 4.1 mi to the station on the left. The station is 4' rod stamped --- CFW-21 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 13.1' N of CL; 5.1' SW of MWP. BK# 375

NAD83 (1986)		- ZONE - NAD83 (1992)			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444228.10734 *Longitude: 673513.52706 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CFW-30

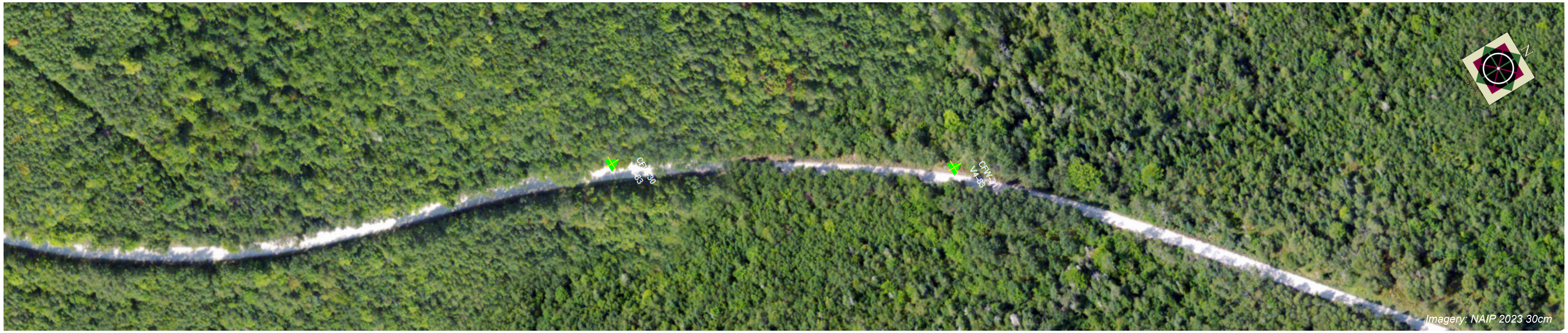
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**	Adjustment: **NAD83(1996)**	Type: **H**	
NORTH-2000 m: **96987.143**	EAST-2000 m: **725772.518**	City: **JONESBORO**	County: **WAS**
NORTH-2000 sFT: **318198.652**	EAST-2000 sFT: **2381138.669**	GPS: **Y**	
NAVD88 ELEV m: **0**	NAVD88 ELEV sFT: **0**	Order:	
Described By: **BMD**	Date Set: **11/16/2010**	Project: **014259.00**	

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CFW-30 The station is located from the junction of Jonesboro Station Rd and R/T, head Easterly on R/T for 6.1 mi to the station on the left. The station is 4' rod stamped --- CFW-30 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 16.6' of CL; 5.0' of MWP. BK# 375



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE - **NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444220.59838 *Longitude: 673259.22871 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
CFW-31

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**	Adjustment: **NAD83(1996)**	Type: **H**	
NORTH-2000 m: **97100.778**	EAST-2000 m: **725843.462**	City: **JONESBORO**	County: **WAS**
NORTH-2000 sFT: **318571.469**	EAST-2000 sFT: **2381371.425**	GPS: **Y**	
NAVD88 ELEV m: **0**	NAVD88 ELEV sFT: **0**	Order:	
Described By: **JME**	Date Set: **11/16/2010**	Project: **014259.00**	

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: CFW-31 The station is located from the junction of Jonesboro Station Rd and R/T, head Easterly on R/T for 6.2 mi to the station on the left. The station is 4' rod stamped --- CFW-31 2010 --- driven subsurface in the shoulder of the R/T. IT IS: 13.9' of CL; 7.8' of MWP. BK# 375

NAD83 (1986)		- ZONE - **NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444224.27048 *Longitude: 673255.98531 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
WM-10

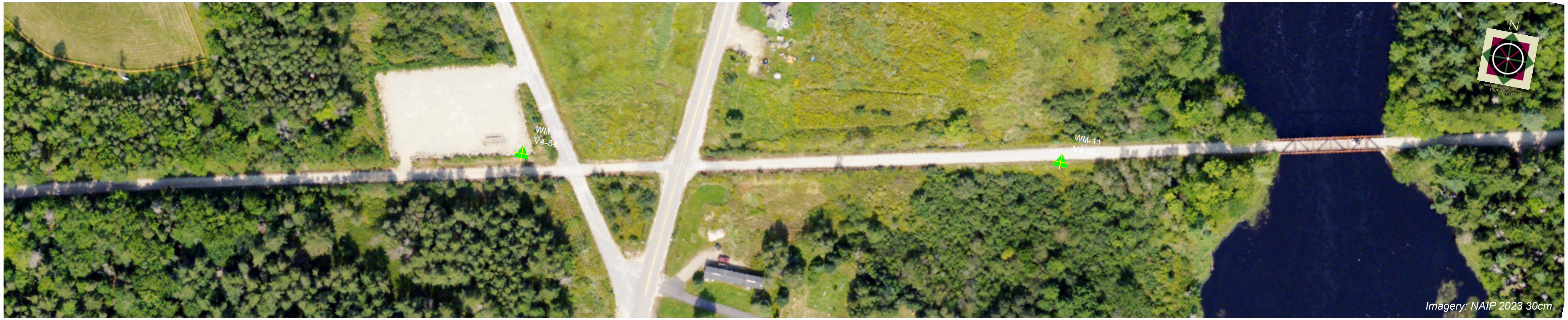
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **98514.736**
EAST-2000 m: **727920.413**
City: **WHITNEYVILLE**
County: **WAS**
NORTH-2000 sFT: **323210.43**
EAST-2000 sFT: **2388185.555**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **PL**
Date Set: **06/08/2009**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: WM-10 To reach from the junction of Rte. 1A and Middle St. travel about 30' NW on Middle St. and station is about 50' down the tracks. The station is a 4'rod and disk stamped...WM-10 2009...driven subsurface in the enbankment about 6' above the tracks. IT IS: 29.7' SW of pole# E/P80/SPP/440; 24.10' SSW of guide wire; 2.0' S of MWP; 21.8' N of CL of trail. BK#365



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444309.79633 *Longitude: 673121.35751 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
WM-11

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **98549.569**
EAST-2000 m: **728120.215**
City: **WHITNEYVILLE**
County: **WAS**
NORTH-2000 sFT: **323324.711**
EAST-2000 sFT: **2388841.072**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **PL**
Date Set: **06/08/2009**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: WM-11 To reach from the junction of Rte. 1A and Middle St. travel 170' North on Rte 1A. and turn right onto trail travel approximately 460' to the station on the right. The station is a 4'rod and disk stamped...WM-11 2009...driven subsurface in the side of the trail. IT IS: 8.5' SSW of approx CL of trail; 41.8' W of snowmobile sign post mile 55; 8.6' N of MWP; 71.8' WNW of 10" Popular tree w/nail 15' from the ground. BK#365

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444310.89665 *Longitude: 673112.27218 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
S 167 (NGS)

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **B**

NORTH-2000 m: **98034.491** EAST-2000 m: **730751.229** City: **MACHIAS** County: **WAS**

NORTH-2000 sFT: **321634.826** EAST-2000 sFT: **2397472.99** GPS: **R**

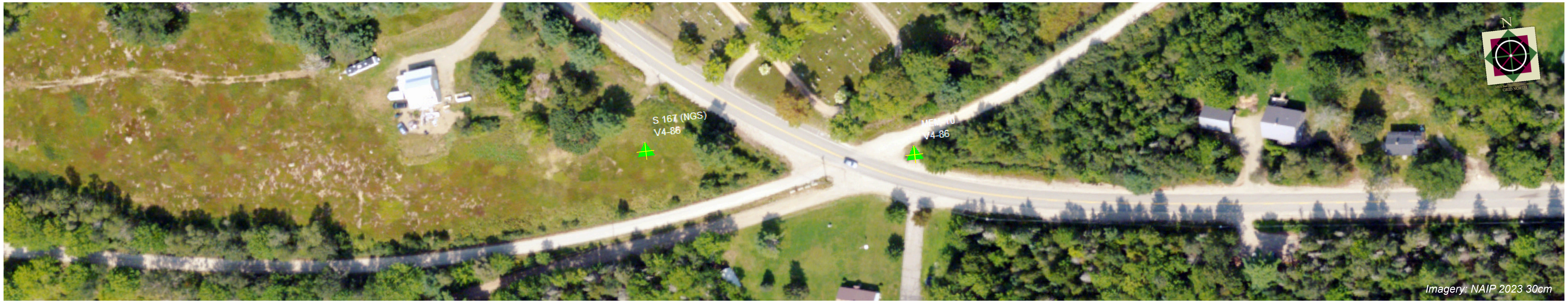
NAVD88 ELEV m: **38.071** NAVD88 ELEV sFT: **124.905** Order: **1**

Described By: **NGS** Date Set: **01/01/1966** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: S 167 (NGS) RAD 2002 KCR; RAD 1978 Permanent Mark. About 1.8 MILES WEST ALONG THE MAINE CENTRAL RAILROAD FROM THE STATION AT MACHIAS, NEAR THE CROSSING OF U.S. HIGHWAY 1 A, 239 FEET NORTHWEST OF THE CENTER OF THE CROSSING, The benchmark is a standard disk stamped --- S 167 1977 --- cemented in a drill hole in a 2 foot x 5 foot portion of exposed rock ledge., and about 3 feet above the level of the highway. 104 FEET SOUTHWEST OF THE CENTER LINE OF THE HIGHWAY, 72.0 FEET NORTH OF THE NORTH RAIL Companion is MEM-10.



NAD83 (1986)		- ZONE - **NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	38.282
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	125.597
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444253.82155 *Longitude: 672912.83824 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
MEM-10

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **98023.006** EAST-2000 m: **730841.153** City: **MACHIAS** County: **WAS**

NORTH-2000 sFT: **321597.146** EAST-2000 sFT: **2397768.016** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PL** Date Set: **06/08/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: MEM-10 To reach from the junction of Hospital St. and Rte. 1A, travel north on 1A 0.440 mi to the station on the right in the grassy area where the trail meets Rte 1A. The station is a 4' rod and disk stamped...MEM-10 2009...driven subsurface on the shoulder of the trail. IT IS: 18.5' WNW of pole with no #; 7.2' WSW of MWP; 12.5' S of 4x4 wooden post with stop sign attached. BK#365 Companion is NGS BM S 167.

NAD83 (1986)		- ZONE - **NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444253.43558 *Longitude: 672908.75519 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
MEM-20

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**　Adjustment: **NAD83(1996)**　Type: **H**

NORTH-2000 m: **98640.252**　EAST-2000 m: **733718.408**　City: **MACHIAS**　County: **WAS**

NORTH-2000 sFT: **323622.227**　EAST-2000 sFT: **2407207.81**　GPS: **Y**

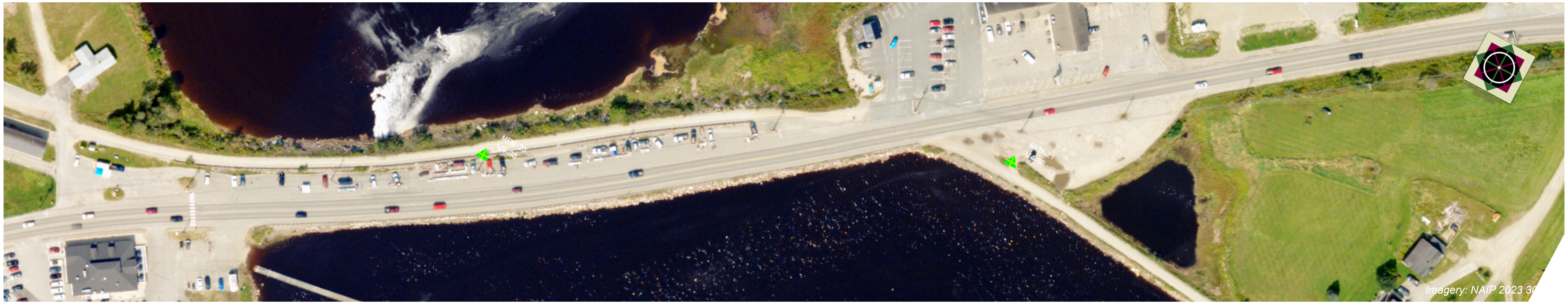
NAVD88 ELEV m: **0**　NAVD88 ELEV sFT: **0**　Order:

Described By: **DR**　Date Set: **06/08/2009**　Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: MEM-20 To reach from the junction of Rte. 1A , Hadley Rd, and Old County Rd, travel southerly on 1 0.295 mi to the station on the left between the parking area and the trail along the causeway. Also can be reached from the junction of Rte 1A and Rte 1; travel along Rte1 , 0.170 miles North. The station is a 4'rod and disk stamped...MEM-20 2009...driven subsurface in shoulder of the trail. IT IS: 10.8' ENE of pole #30; 20.5' N of pole # 280/30; 10.0' W of end of guardrail post. BK#365



NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444312.96517　*Longitude: 672657.88613　*Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
MEM-21

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**　Adjustment: **NAD83(1996)**　Type: **H**

NORTH-2000 m: **98740.695**　EAST-2000 m: **733912.388**　City: **MACHIAS**　County: **WAS**

NORTH-2000 sFT: **323951.764**　EAST-2000 sFT: **2407844.226**　GPS: **Y**

NAVD88 ELEV m: **0**　NAVD88 ELEV sFT: **0**　Order:

Described By: **DR**　Date Set: **06/08/2009**　Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: MEM-21 To reach from the junction of Rte. 1A and Hadley Rd, and Old County Rd , travel southerly on 1 0.150 mi to the station, near a gravel turn/parking area and across from the mini-mall. The station is a 4'rod and disk stamped...MEM-21 2009...driven subsurface in shoulder of the trail. IT IS: 15.3' W of pole #32 $; 44.2' S of pole # 32; 22.8' NWW of guy anchor. BK#365

NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 0　*Longitude: 0　*Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-10

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **98193.039** EAST-2000 m: **737175.358** City: **EAST MACHIAS** County: **WAS**

NORTH-2000 sFT: **322154.995** EAST-2000 sFT: **2418549.487** GPS: **Y**

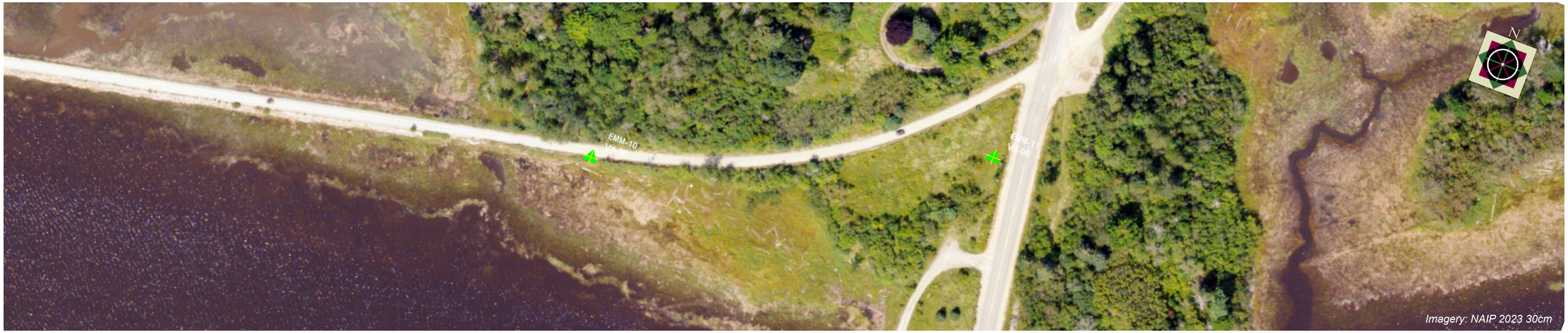
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **06/08/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-10 To reach from the junction of Rim Rd and Holmes Way; travel Southerly on Rim Rd 0.320 mi to the trail on right then 575' down trail to station. The station is a 4' rod and disk stamped --- EMM-10 2009 ---driven subsurface in the shoulder of the trail. IT IS: 41.8' SE of 10" Popular tree; 3.5' N of MWP; 30.6' E of Stop Ahead sign post. BK#365



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444257.86231 *Longitude: 672420.9296 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-11

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **98246.759** EAST-2000 m: **737317.22** City: **EAST MACHIAS** County: **WAS**

NORTH-2000 sFT: **322331.242** EAST-2000 sFT: **2419014.913** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **06/08/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-11 To reach from the junction of Rim Rd and Holmes Way; travel Southerly on Rim Rd 0.345 mi to the station on the right. The station is a 4' rod and disk stamped --- EMM-11 2009 ---driven subsurface in the shoulder of the trail. IT IS: 27.6' N of pole no # with conduit pipe; 9.8' NE of MWP; 14.3' E of highway monument. BK#365

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444259.57604 *Longitude: 672414.47017 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-20

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **100757.94** EAST-2000 m: **738445.426** City: **EAST MACHIAS** County: **WAS**

NORTH-2000 sFT: **330570.008** EAST-2000 sFT: **2422716.368** GPS: **Y**

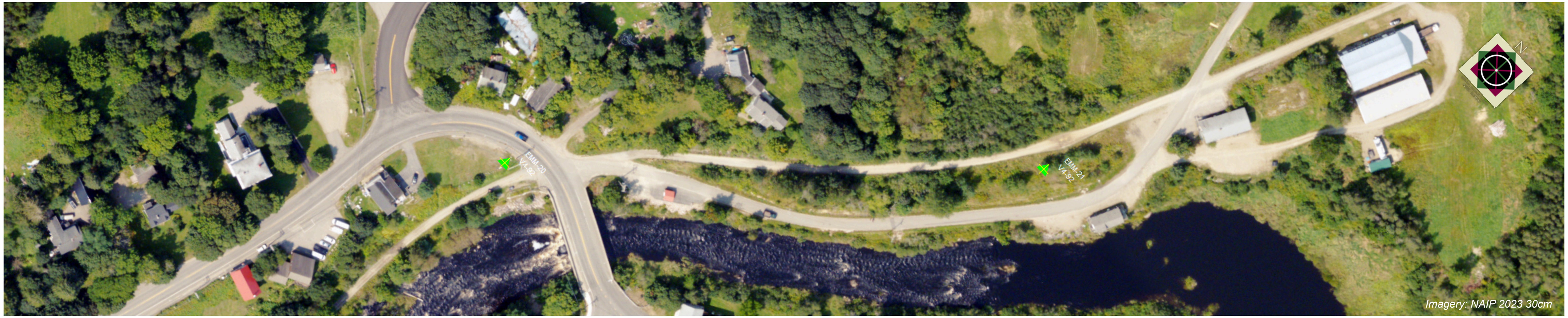
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PL** Date Set: **06/08/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-20 To reach from the junction of Factory Rd and Rte 1; travel Southerly on Rte 1 for 65' to the station on the left. OR 200' from the junction of Rte 191 and Rte 1 Northerly. The station is a 4' rod and disk stamped --- EMM-20 2009 ---driven subsurface in the shoulder of the trail. IT IS: 18.3' SSE of MWP; 18.2' SW of pole # 282/130; 9.6' W of face of support pole TB130. BK#365



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444420.71119 *Longitude: 672322.53103 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-21

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **100928.866** EAST-2000 m: **738606.715** City: **EAST MACHIAS** County: **WAS**

NORTH-2000 sFT: **331130.788** EAST-2000 sFT: **2423245.531** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **06/08/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-21 To reach from the junction of Factory Rd and Rte 1; travel on Factory Rd for 45' then left on trail for 620' to station on right. The station is a 4' rod and disk stamped --- EMM-21 2009 ---driven subsurface in the shoulder of the trail. IT IS: 21.7' NW of MWP; 73.3' SW of pole no #; 30.7' SE of CL of trail. BK#365

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444426.2171 *Longitude: 672315.15371 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-31

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **103503.528** EAST-2000 m: **737574.649** City: **EAST MACHIAS** County: **WAS**

NORTH-2000 sFT: **339577.825** EAST-2000 sFT: **2419859.494** GPS: **Y**

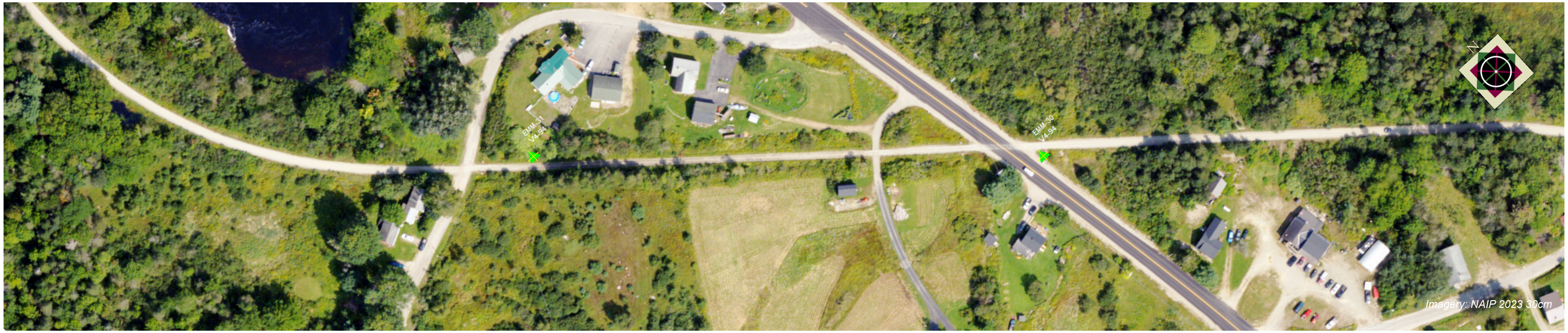
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **06/08/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-31 To reach from the junction of Dwelley Rd and Rte 191; travel on Dwelley Rd for .125 mi to the trail and 97' South-Easterly down trail to station on left. The station is a disk drilled in an emdebbed boulder stamped --- EMM-31 2009 --- in the shoulder of the trail. IT IS: 4.6' S of MWP; 25.1' SE of 2" steel pipe; 67.0' E of CL of pole # 18/280/112. BK#365



NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444549.82062 *Longitude: 672401.3815 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-30

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **103349.618** EAST-2000 m: **737737.587** City: **EAST MACHIAS** County: **WAS**

NORTH-2000 sFT: **339072.872** EAST-2000 sFT: **2420394.067** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **06/08/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-30 To reach from the junction of Dwelly Rd and Rte 191; travel Southerly on Rte 191 for .065 mi to the station. The station is a 4' rod and disk stamped --- EMM-30 2009 ---driven subsurface in the shoulder of the trail. IT IS: 8.2' NNW of MWP; 73.8' SE of pole # 1/42; 25.5' E of CL of Rte 191. BK#365

NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444544.80388 *Longitude: 672354.01353 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

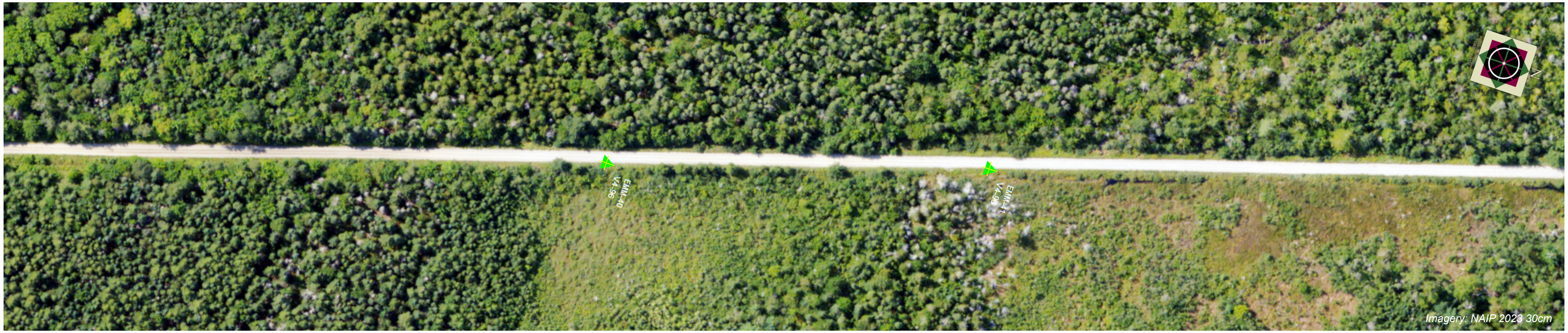
Control Point Description
NAD 83 DATUM - METRIC
EMM-40

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **106689.848**
EAST-2000 m: **736830.828**
City: **EAST MACHIAS**
County: **WAS**
NORTH-2000 sFT: **350031.61**
EAST-2000 sFT: **2417419.142**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **DR**
Date Set: **09/15/2009**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-40 The station is located 1.5mi N on R/T from Palmer Rd. The station is a 4' rod and disk stamped --- EMM-40 2009 --- driven subsurface in the shoulder of the rail trail. IT IS: 3.0' W of MWP; 8.2' E of CL of R/T. BK#370



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444733.18005 *Longitude: 672434.37484 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
EMM-41

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **106832.16**
EAST-2000 m: **736788.055**
City: **EAST MACHIAS**
County: **WAS**
NORTH-2000 sFT: **350498.512**
EAST-2000 sFT: **2417278.81**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **PAL**
Date Set: **09/15/2009**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-41 The station is located 1.6mi N on R/T from Palmer Rd. The station is a 4' rod and disk stamped --- EMM-41 2009 --- driven subsurface in the shoulder of the rail trail. IT IS: 32.9' N of MWS attached to mile sign post; 8.5' W of CL of R/T BK#370

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 444737.79813 *Longitude: 672436.28371 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-50

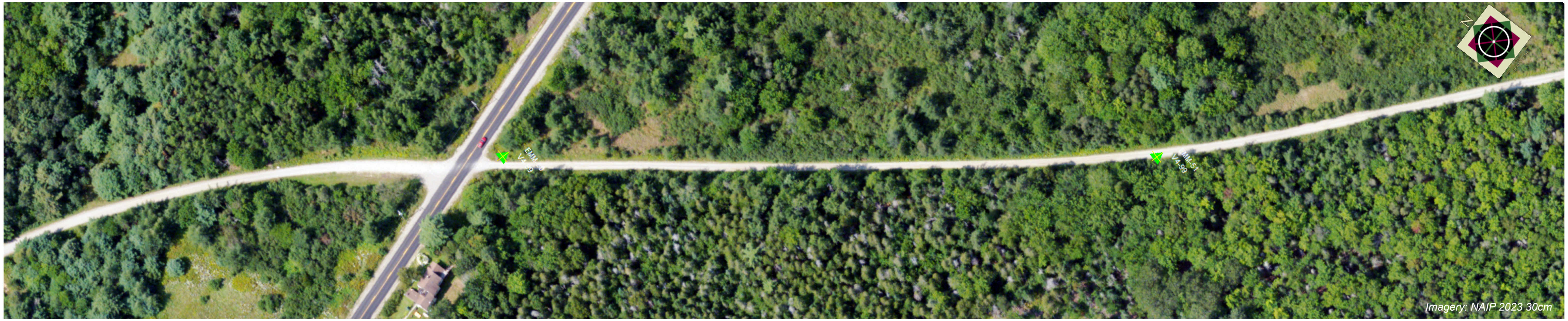
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **111387.052**
EAST-2000 m: **735967.631**
City: **EAST MACHIAS**
County: **WAS**
NORTH-2000 sFT: **365442.353**
EAST-2000 sFT: **2414587.136**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **DR**
Date Set: **06/08/2009**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-50 To reach from the junction of Campground Rd. and Rte 191; travel on Rte 191 for 4.0 mi to the station, 30' down the trail. OR from the junction of Rte 191 and Palmers Landing Rd, travel 4.6 mi to station on trail. The station is a 4' rod and disk stamped --- EMM-50 2009 --- driven subsurface in the shoulder of the trail. IT IS: 8.7' N of MWP; 46.1' SSE of pole # 209; 61.1' N of pole # 280/508. BK#365



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445005.50255 *Longitude: 672512.44913 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-51

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **111604.461**
EAST-2000 m: **736137.898**
City: **EAST MACHIAS**
County: **WAS**
NORTH-2000 sFT: **366155.636**
EAST-2000 sFT: **2415145.754**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **DR**
Date Set: **06/08/2009**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-51 To reach from the junction of Campground Rd. and Rte 191; travel on Rte 191 for 4.0 mi to the station, 940' down the trail. The station is a 4' rod and disk stamped --- EMM-51 2009 ---driven subsurface in the shoulder of the trail. IT IS: 5.2' NW of MWP; 54.1' S of old pole; 43.7' SE of 14" White Birch. BK#365

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445012.51368 *Longitude: 672504.64273 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-60

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **113830.199** EAST-2000 m: **738367.08** City: **MARION** County: **WAS**

NORTH-2000 sFT: **373457.911** EAST-2000 sFT: **2422459.328** GPS: **Y**

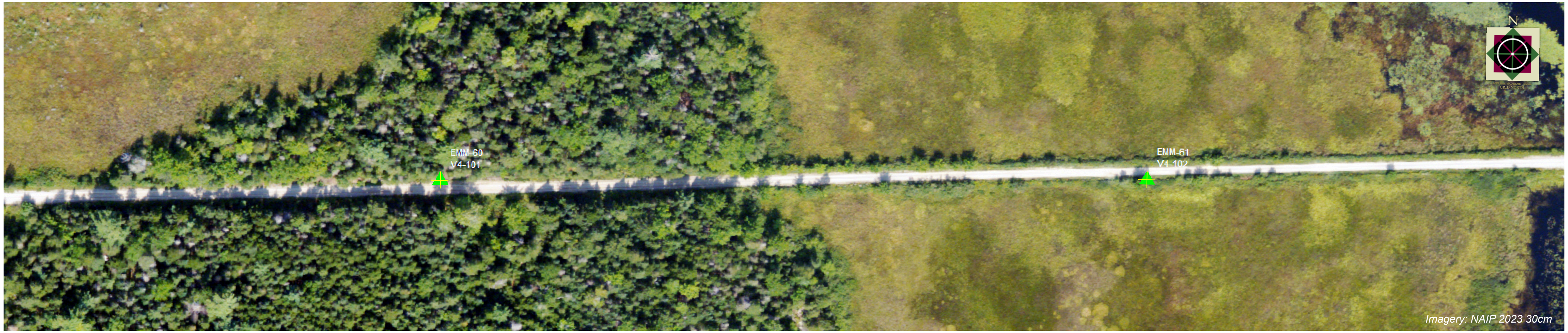
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-60 Permanent Mark. The station is located from The Marion Station Rd, S on R/T for 4.0mi. OR N on R/T for 2.4mi from Rte.191. The station is a disk stamped --- EMM-60 2009 --- set in a boulder. IT IS: 5.7' S of MWS; 9.3' N of CL of R/T. BK#370



NAD83 (1986) - ZONE - **NAD83 (1992)**

NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445124.19706 *Longitude: 672322.54516 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-61

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **113831.916** EAST-2000 m: **738617.474** City: **MARION** County: **WAS**

NORTH-2000 sFT: **373463.544** EAST-2000 sFT: **2423280.829** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **JME** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-61 The station is located from The Marion Station Rd, S on R/T for 3.9mi. OR N on R/T for 2.5mi from Rte.191. The satation is a 4' rod and disk stamped --- EMM-61 2009 --- driven subsurface in th shoulder of the trail. IT IS: 3.9' N of MWS; 10.5' S of CL of R/T. BK#370

NAD83 (1986) - ZONE - **NAD83 (1992)**

NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445124.20406 *Longitude: 672311.14074 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-70

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **114616.744** EAST-2000 m: **741165.104** City: **MARION** County: **WAS**

NORTH-2000 sFT: **376038.434** EAST-2000 sFT: **2431639.179** GPS: **Y**

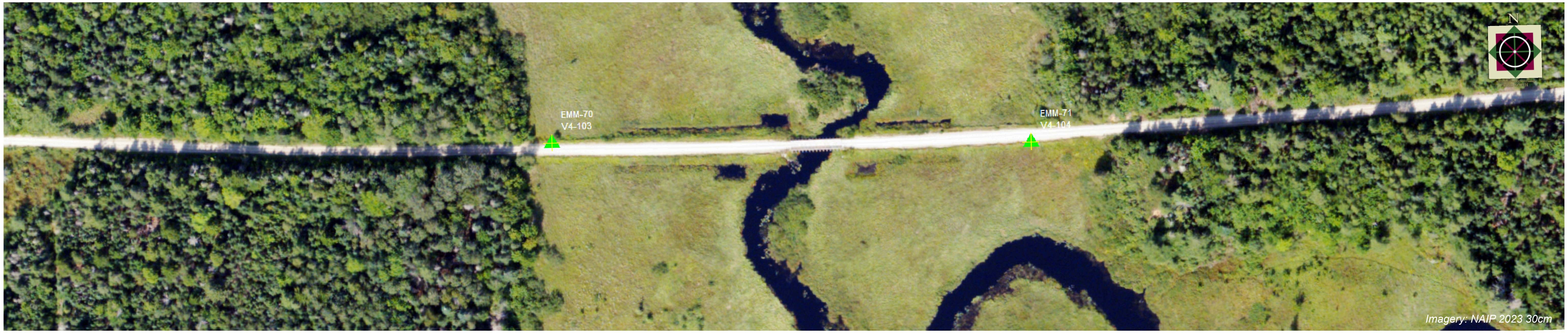
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-70 The station is located from The Marion Station Rd, S on R/T for 2.2mi. OR N on R/T for 4.2mi from Rte.191. The satation is a 4' rod and disk stamped --- EMM-70 2009 --- driven subsurface in th shoulder of the trail. IT IS: 8.0' NNE of CL; 34.2' E of MWS. BK#370



NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445149.11508 *Longitude: 672114.88262 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-71

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **114612.351** EAST-2000 m: **741334.948** City: **MARION** County: **WAS**

NORTH-2000 sFT: **376024.022** EAST-2000 sFT: **2432196.409** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-71 The station is located from The Marion Station Rd, S on R/T for 2.1mi. OR N on R/T for 4.3mi from Rte.191. The satation is a 4' rod and disk stamped --- EMM-71 2009 --- driven subsurface in th shoulder of the trail. IT IS: 8.5' N of MWS; 8.5' S of CL of R/T; 260 +/- W of center of bridge. BK#370

NAD83 (1986)	- ZONE -	**NAD83 (1992)**			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445148.93742 *Longitude: 672107.14764 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EMM-80

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **115928.846** EAST-2000 m: **744077.181** City: **MARION** County: **WAS**

NORTH-2000 sFT: **380343.222** EAST-2000 sFT: **2441193.218** GPS: **Y**

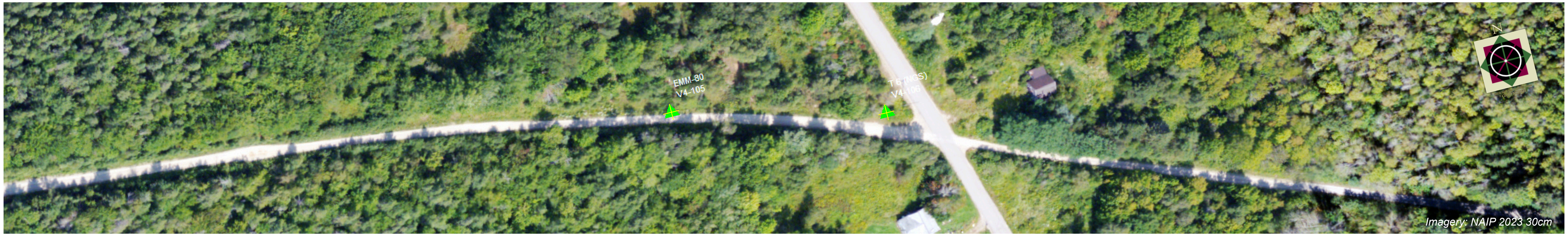
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **JME** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EMM-80 The station is located from The Marion Station Rd, S on R/T for .10mi. OR N on R/T for 6.3mi from Rte.191. The satation is a 4' rod and disk stamped --- EMM-80 2009 --- driven subsurface in th shoulder of the trail. IT IS: 33.8' N of MWS; 10.8' ENE of CL of R/T. BK#370



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445230.99273 *Longitude: 671901.82976 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
T 6 (NGS)

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **B**

NORTH-2000 m: **115909.307** EAST-2000 m: **744154.743** City: **MARION TWP** County: **WAS**

NORTH-2000 sFT: **380279.118** EAST-2000 sFT: **2441447.686** GPS: **Y**

NAVD88 ELEV m: **56.117** NAVD88 ELEV sFT: **184.111** Order: **1**

Described By: **NGS** Date Set: **01/01/1927** Project: **10065.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

Designation: T 6 (NGS) Permanent Mark. This benchmark was set by the U.S. Coast and Geodetic Survey in 1927. It is in the vicinity of NGS benchmark J 168 1966 and shares the same scaled UTM coordinate, therefore it will not plot in Arc View. J 168 instead plots in Arc View. RAD 2001 K.C. Reynolds: DESCRIBED BY NATIONAL GEODETIC SURVEY 1966 4 MI SW FROM DENNYSVILLE. 4.05 MILES SOUTHWEST ALONG THE MAINE CENTRAL RAILROAD FROM THE CROSSING OF STATE HIGHWAY 86 AT DENNYSVILLE, NEAR THE EAST END OF MARION SIDING, NEAR A BLACK TOPPED ROAD CROSSING, 77 FEET NORTH OF THE CENTER OF THE CROSSING OF THE BLACK TOPPED ROAD, 42 FEET NORTHWEST OF THE CENTER LINE OF THE ROAD, 23.0 FEET NORTHEAST OF THE NORTHEAST RAIL OF THE MAIN TRACK, 47 FEET NORTH OF A SWITCH STAND, 1.5 FEET SOUTHWEST OF A METAL WITNESS POST, ABOUT 2 1/2 FEET ABOVE THE LEVEL OF THE TRACK, AND SET IN THE TOP OF A CONCRETE POST PROJECTING 0.3 FOOT.

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	56.322
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	184.783
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445230.34252 *Longitude: 671858.30231 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EDD-10

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **116891.315** EAST-2000 m: **746809.443** City: **EDMUNDS** County: **WAS**

NORTH-2000 sFT: **383500.923** EAST-2000 sFT: **2450157.314** GPS: **Y**

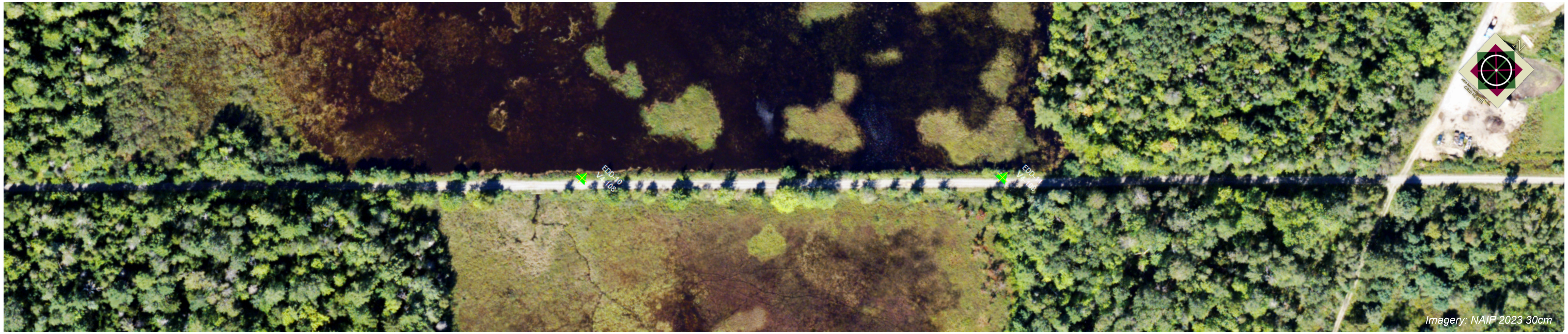
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EDD-10 Station is located from Rte 86 travel S on R/T 2.1mi. Also 2.2mi from the Marion Station Rd. The station is a 4' rod and disk stamped...EDD-10 2009...driven subsurface in the shoulder of the R/T. IT IS: 1.9' SE of MWS; 8.8' NW of CL of trail. BK#370



Imagery: NAIP 2023 30cm

NAD83 (1986)		- ZONE -	NAD83 (1992)		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445301.54369 *Longitude: 671657.03354 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EDD-11

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **117018.309** EAST-2000 m: **746944.7** City: **EDMUNDS** County: **WAS**

NORTH-2000 sFT: **383917.569** EAST-2000 sFT: **2450601.07** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **JME** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EDD-11 Station is located from Rte 86 travel S on R/T 1.9mi. Also 2.1mi from the Marion Station Rd. The station is a 4' rod and disk stamped...EDD-11 2009...driven subsurface in the shoulder of the R/T. IT IS: 4.9' SE of MWS; 8.2' NNW of CL of trail. BK#370

NAD83 (1986)		- ZONE -	NAD83 (1992)		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445305.62545 *Longitude: 671650.82826 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EDD-20

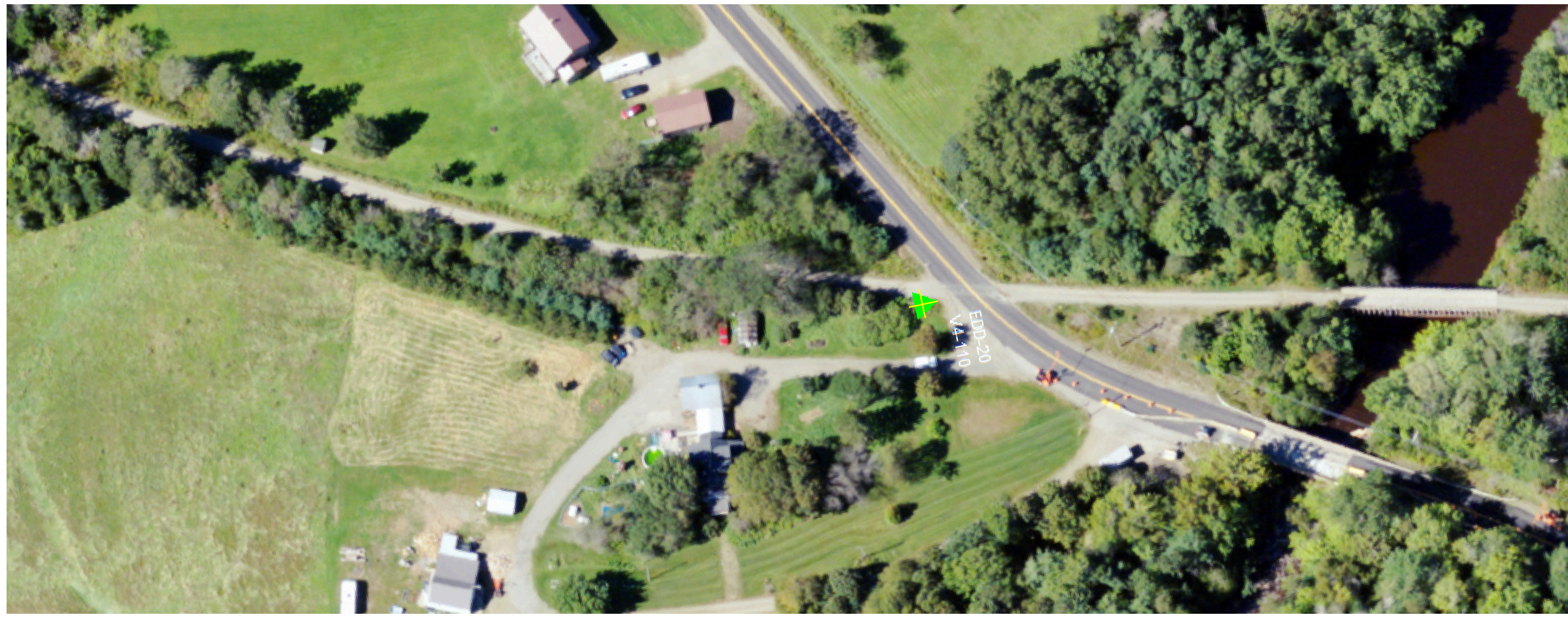
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone:	**E**	Adjustment:	**NAD83(1996)**	Type:	**H**		
NORTH-2000 m:	**118738.015**	EAST-2000 m:	**749546.475**	City:	**EDMUNDS**	County:	**WAS**
NORTH-2000 sFT:	**389559.638**	EAST-2000 sFT:	**2459137.06**	GPS:	**Y**		
NAVD88 ELEV m:	**0**	NAVD88 ELEV sFT:	**0**	Order:			
Described By:	**PAL**	Date Set:	**09/16/2009**	Project:	**014259.00**		

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EDD-20 Station is located at the junction of Rte 86 (Great Works Rd) on the SE side of R/T. The station is a 4' rod and disk stamped...EDD-20 2009...driven subsurface in the shoulder of the R/T. IT IS: 5.0' SSW of MWS, on post with Stop sign; 40.5' SW of CL of Rte 86; 9.3' SE of trail CL. BK#370



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445400.69845	*Longitude: 671451.67221	*Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EDD-21

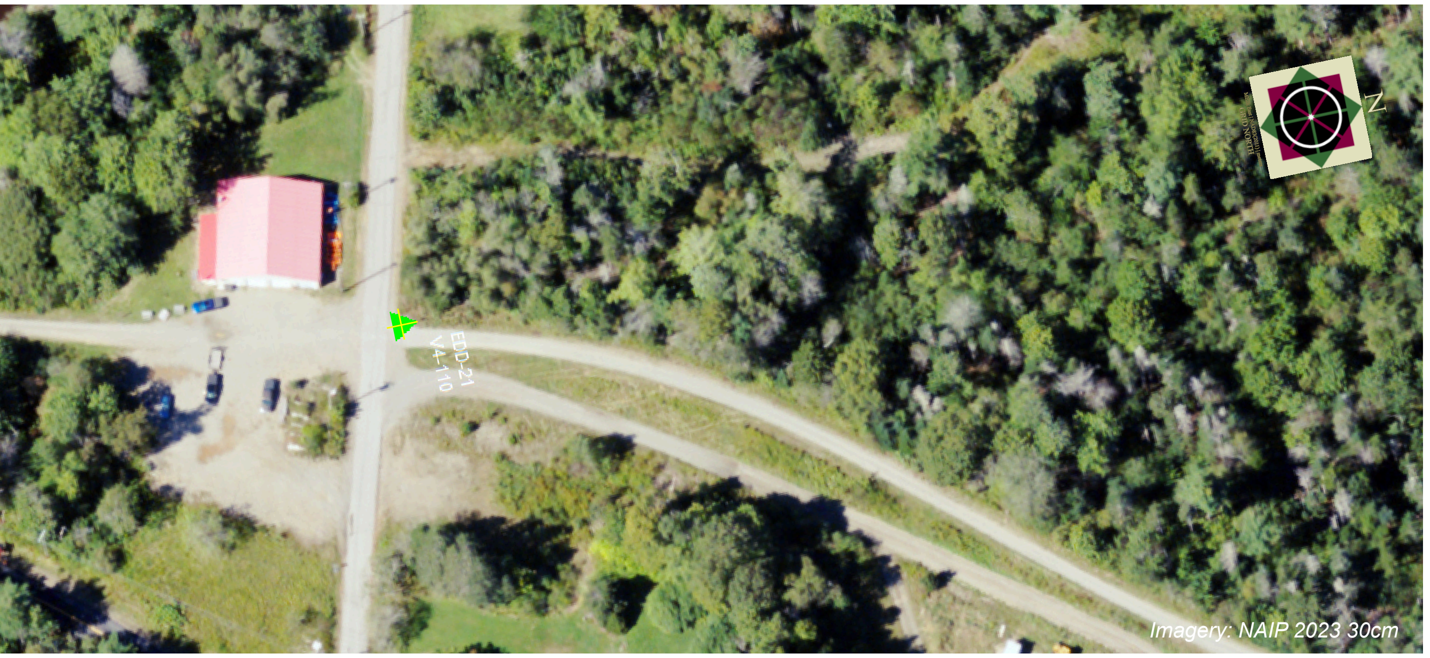
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone:	**E**	Adjustment:	**NAD83(1996)**	Type:	**H**		
NORTH-2000 m:	**118938.229**	EAST-2000 m:	**749588.975**	City:	**EDMUNDS**	County:	**WAS**
NORTH-2000 sFT:	**390216.506**	EAST-2000 sFT:	**2459276.495**	GPS:	**Y**		
NAVD88 ELEV m:	**27.325**	NAVD88 ELEV sFT:	**89.649**	Order:			
Described By:	**DR**	Date Set:	**09/16/2009**	Project:	**014259.00**		

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EDD-21 Station is located at the junction of Milwaukee Rd on the NW side of R/T. The station is a 4' rod and disk stamped...EDD-21 2009...driven subsurface in the shoulder of the R/T. IT IS: 8.2' SW of MWS; 41.2' NE of pole #2/51/3; 16.0' NNE of CL of Milwaukee Rd. BK#370



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445407.17339	*Longitude: 671449.66459	*Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
EDD-30

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **121847.058** EAST-2000 m: **748551.197** City: **EDMUNDS** County: **WAS**

NORTH-2000 sFT: **399759.889** EAST-2000 sFT: **2455871.719** GPS: **Y**

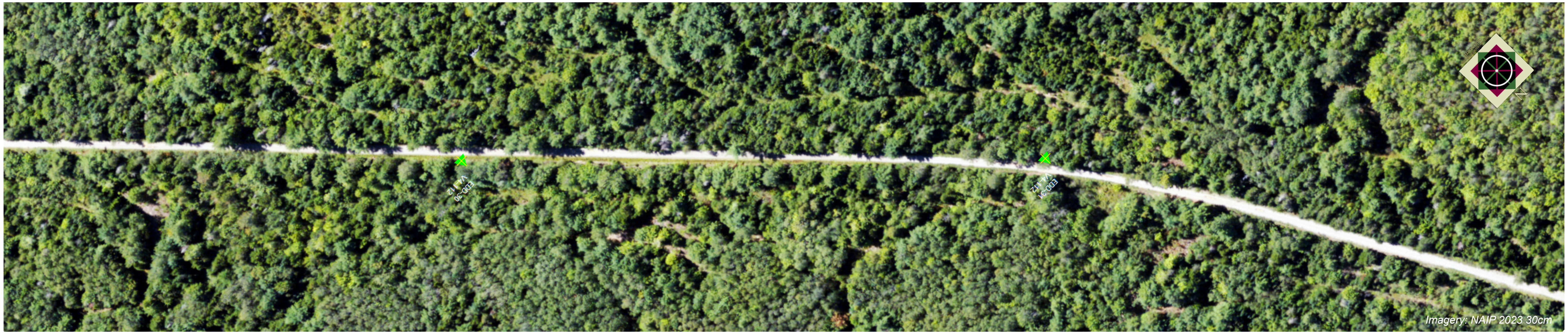
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **JME** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EDD-30 Station is located Sthly from the Smith Ridge Rd 2.0mi, Also Nthly of Milwaukee Rd 2.0mi. The station is a 4' rod and disk stamped...EDD-30 2009...driven subsurface in the shoulder of the R/T. IT IS: 6.2' WSW of MWS; 13.1' ENE of CL of R/T. BK#370



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445541.65711 *Longitude: 671535.96037 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

16 State House Station
Augusta, ME 04333-0016

Control Point Description
NAD 83 DATUM - METRIC
EDD-31

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **122029.338** EAST-2000 m: **748373.763** City: **EDMUNDS** County: **WAS**

NORTH-2000 sFT: **400357.92** EAST-2000 sFT: **2455289.587** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **PAL** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EDD-31 Station is located Sthly from the Smith Ridge Rd 1.8mi, Also Nthly of Milwaukee Rd 2.2mi. The station is a 4' rod and disk stamped...EDD-31 2009...driven subsurface in the shoulder of the R/T. IT IS: 6.2' WSW of MWS; 13.1' ENE of CL of R/T. BK#370

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445547.60523 *Longitude: 671543.9885 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EDD-40

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **124878.293** EAST-2000 m: **748209.661** City: **DENNYSVILLE** County: **WAS**

NORTH-2000 sFT: **409704.866** EAST-2000 sFT: **2454751.196** GPS: **Y**

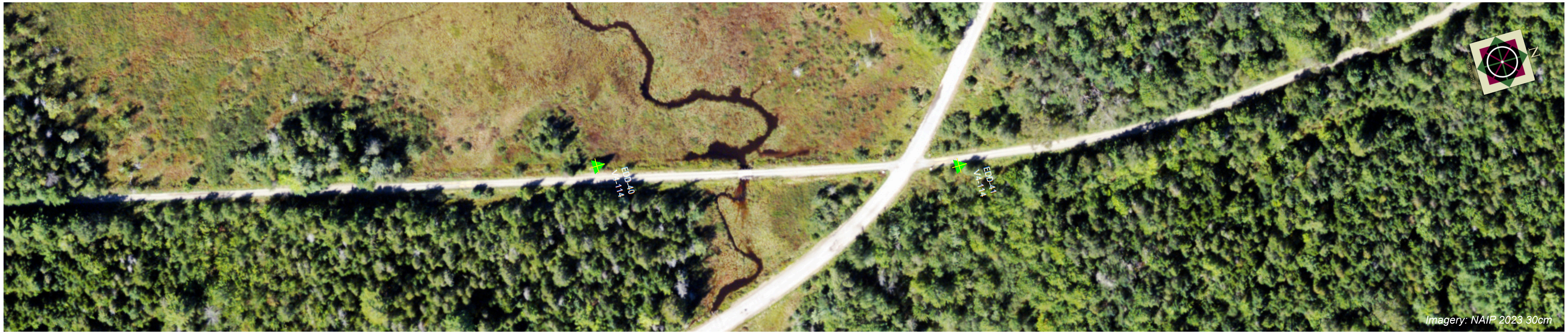
NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **DR** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EDD-40 Permanent Mark. To locate from Smith Ridge Rd travel Southerly on R/T for .10mi. The station is a disk stamped...EDD-40 2009...set in ledge. IT IS:18.3' SW of MWS; 15.8' NW of CL of R/T; 0.1' S of Smith Ridge Rd. BK#370



NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	**0**	NORTH m	**0**	NGVD 29 ELEV m	**0**
EAST m	**0**	EAST m	**0**	NGVD 29 ELEV sFT	**0**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445719.93185 *Longitude: 671550.49305 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EDD-41

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E** Adjustment: **NAD83(1996)** Type: **H**

NORTH-2000 m: **125013.763** EAST-2000 m: **748248.65** City: **DENNYSVILLE** County: **WAS**

NORTH-2000 sFT: **410149.321** EAST-2000 sFT: **2454879.113** GPS: **Y**

NAVD88 ELEV m: **0** NAVD88 ELEV sFT: **0** Order:

Described By: **JME** Date Set: **09/16/2009** Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EDD-41 To locate from Smith Ridge Rd travel Northerly on R/T for .012mi. Also 2.8mi Sthly from Ayres Junction. The station is a 4' rod and disk stamped...EDD-41 2009...driven subsurface in the shoulder of the R/T. IT IS:66.6' to CL of Smith Ridge Rd.; 9.5' to MWS. BK#370

NAD83 (1986)		- ZONE -	**NAD83 (1992)**		
NORTH m	**0**	NORTH m	**0**	NGVD 29 ELEV m	**0**
EAST m	**0**	EAST m	**0**	NGVD 29 ELEV sFT	**0**
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445724.31058 *Longitude: 671548.66772 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EDD-50

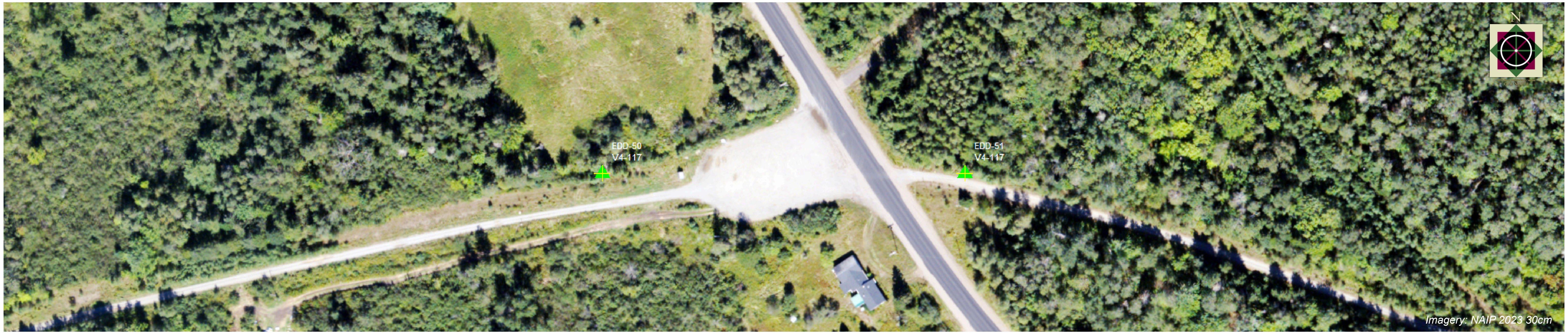
16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **128207.246**
EAST-2000 m: **750376.851**
City: **PEMBROKE**
County: **WAS**
NORTH-2000 sFT: **420626.606**
EAST-2000 sFT: **2461861.385**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **PAL**
Date Set: **09/16/2009**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EDD-50 The station is located from Ayers Junction head Sthly for 0.10mi on right side o trail. The station is a 4' rod and disk stamped --- EDD-50 2009 --- driven subsurface in the shoulder of the Rail Trail. IT IS: 4.3' S of MWP; 35.5' N of trail CL. BK#370



NAD83 (1986)		- ZONE - NAD83 (1992)			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445907.22501 *Longitude: 671410.427 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

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Maine Department of Transportation

Photogrammetry & Control Unit
(207) 624-3493

Control Point Description
NAD 83 DATUM - METRIC
EDD-51

16 State House Station
Augusta, ME 04333-0016

ME2000 Zone: **E**
Adjustment: **NAD83(1996)**
Type: **H**
NORTH-2000 m: **128207.488**
EAST-2000 m: **750508.543**
City: **PEMBROKE**
County: **WAS**
NORTH-2000 sFT: **420627.4**
EAST-2000 sFT: **2462293.445**
GPS: **Y**
NAVD88 ELEV m: **0**
NAVD88 ELEV sFT: **0**
Order:
Described By: **JME**
Date Set: **09/16/2009**
Project: **014259.00**

R=RTK
Y=MDOT(GPS)
F=FEDERAL BASENET
N=CLASSICAL TRAVERSE
C=COOPERATIVE BASENET

Description

STATION NAME: EDD-51 Permanent Mark. The station is located at Ayers Junction on Rte. 214. The station is a disk stamped... EDD-51 2009...set in a large rock. IT IS: 9.8' SSW of MWP; 89.0' NNE of CL of Rte 214. BK#370

NAD83 (1986)		- ZONE - NAD83 (1992)			
NORTH m	0	NORTH m	0	NGVD 29 ELEV m	0
EAST m	0	EAST m	0	NGVD 29 ELEV sFT	0
SOURCE					

To Station	Grid Distance	Grid Azimuth
	0	0
	0	0
	0	0
	0	0

*Latitude: 445907.19918 *Longitude: 671404.41589 *Not for precision use

***Coordinates and Elevations Established for MaineDOT engineering use; Subject to Higher Order Adjustment
***Meters to U.S. Survey Feet Conversion factor: 39.37/12 or 3.280833333333 repeating

Appendix F - Correspondence

VKB letter 16 Aug 2008 to Surveyors

HORIZON
SURVEYING COMPANY
17 UNION STREET ELLSWORTH, ME 04605 207.667.6912
V. Kelly Bellis, PLS 2099 E-mail address: kellybellis@gwi.net

Saturday, August 16, 2008

To the Surveying Community working in
Hancock and Washington Counties

RE: Railroad Monumentation Preservation

Starting in the Washington County community of Whitneyville, the Maine Department of Transportation (MaineDOT) and the Maine Department of Conservation (DOC) began demolition of the deteriorated rail and ties on the 85-mile Calais Branch Corridor Rehabilitation and Downeast Sunrise Trail Project in June 2008. If present efforts continue on schedule, the easternmost leg of the track removal portion of the project ending at Ayers Junction near Pembroke should be completed sometime in September. After then, Vaughn Thibodeau & Sons of Bangor, the contractor awarded the construction contract will return to Whitneyville and set their sights on Washington Junction near Ellsworth and the removal of the remaining 53 plus miles of track.

Regardless of the emotional aspects of both the proponents and opponents to the project, the monuments that define this strip of land and the associated boundaries of all the properties that abut it are either already gone (see extent of demolition on Google Maps) or soon will be gone. A recent article appearing in the Ellsworth American indicated that "*If all goes according to schedule, 45 miles of the trail ending at Columbia Falls should be cleared and rehabilitated by winter*". Repeated attempts this past week to communicate with Maine D.O.T. officials, the Maine D.O.C., the Hancock County Planning Commission and other organizers of the Downeast Sunrise Trail Project in order to determine the locations of railroad control points that were located ahead of the project's start have only yielded this thus far: 1) About 40 monuments were located by D.O.T. between Franklin and Ayers Junction using fast static techniques, 2) the result hasn't been processed, 3) the locations of those 40 monuments won't be released until some unknown time and 4) there are no plans to replace the monuments.

I am writing this evening to the surveying community who has a vested interest in the preservation of the railroad monuments between Ellsworth and Pembroke and the perpetuation of their original locations looking for your support. The first order of business I believe is to take inventory of what we already know exists. If you have had any projects along the railroad, specifically the main branch running from Washington Junction to Ayers Junction (not the spur running to Hancock Point) please email me with the stationing for the monuments that you recovered. You are also welcome to post this information in a public forum that I've set up at: www.MonumentPreservation.net. Include if possible an assessment as to whether or not GPS could be used or not. To help in that effort I am making available the scanned images of the inventory that was conducted by Maine Central dated 6.30.1916 – regretfully, I only have plans for Hancock County and the quality of what we scanned from my collection is marginal, but legible. They are bitmap files (.tif) and include the main line for all of Hancock County plus the Hancock Point spur. If you're on a dial-up account you won't want to attempt downloading the zipped-up package [**Hancock County Railroad Plans.zip**] as it weighs in around 185 meg.

Once we have a handle on what we already know exists we can look for other control monuments along the gaps in that knowledge. While we're taking inventory we should also be discussing the best means of coordinating GPS observations of both the monuments and strategic reference control points that could be later occupied. Also in that discussion should include the idea of whether or not just having reference control points are sufficient or should there also be new monuments. Please add your voice to the discussion at www.MonumentPreservation.net.

I've been torn between not wanting to do the work for the State for free and taking some responsibility for the preservation of the railroad monumentation irrespective of compensation – but the clock and the destruction of these monuments won't allow the debate.

Thank you very much for your consideration and greatly valued assistance.

Sincerely,

Hancock-Penobscot Chapter
of the Maine Society of Land Surveyors

MSLS Local Chapter Meeting
Thursday, November 20, 2008

1) A motion that the Hancock-Penobscot Chapter of MSLS endorse the attached "*Proposal for Railroad Monument Replacement*" dated November 20, 2008

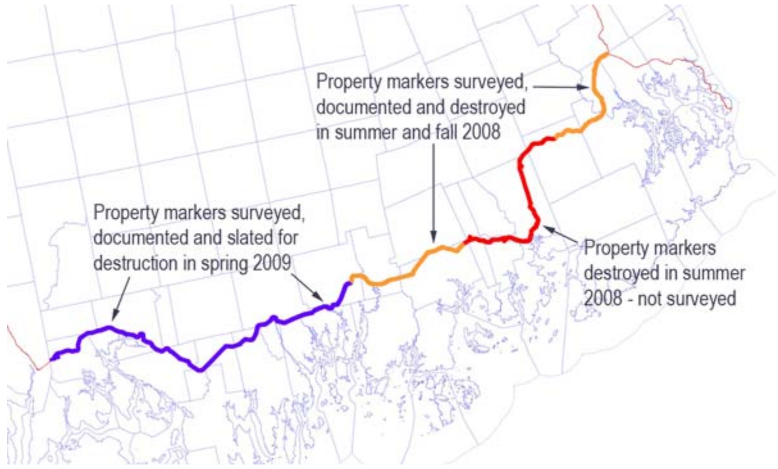
2) A motion that the Hancock-Penobscot Chapter of MSLS request that its Chapter Director, Paul Messier seek the endorsement of the attached "*Proposal for Railroad Monument Replacement*" dated November 20, 2008 from the Executive Committee of MSLS at its next regularly scheduled meeting.

HORIZON
SURVEYING COMPANY
17 UNION STREET ELLSWORTH, ME 04605 207.667.6912
V. Kelly Bellis, PLS 2099 E-mail address: kellybellis@gwi.net

Proposal for Railroad Monument Replacement

Thursday, November 20, 2008 – Available at www.MonumentPreservation.net
by V. Kelly Bellis

From its inception, and throughout all of the promotion of the development of the Calais Branch of the Maine Central Railroad into a recreational trail, the word *preservation* has been frequently used and oftentimes emphasized; *Preservation Strategy*, *"The Calais Branch railroad corridor is 127 miles long and connects Brewer to Calais in Downeast Maine. It was acquired by the Maine Department of Transportation (MaineDOT) in 1987 from Maine Central Railroad for the purposes of rail preservation*"; "*Benefits of the proposed multi-use trail fall into four related areas, economy, preservation, recreation and health.*"; "*Maine DOT's priority is to preserve and protect the corridor for future rail use.*"; "*The 85 miles from Washington Junction to Ayers Junction will be preserved for future use in support of freight rail.*"; "*Preserving the identity of the corridor as a former railroad will create a unique and historic theme.*"[1]


Property markers surveyed, documented and destroyed in summer and fall 2008
Property markers surveyed, documented and slated for destruction in spring 2009
Property markers destroyed in summer 2008 - not surveyed

Unfortunately, the preservation of the corridor's boundaries seems to have been Maine DOT's last priority after witnessing the destruction of historic concrete property markers between June 1st and mid-August of this year that defined 21 miles of property lines of the former railroad property from Whitneyville to Marion Township. After complaints by a land surveyor calling attention to the matter and the damages caused to every adjacent land owner by the destruction of the very property markers that define their property lines, Maine DOT survey crews began efforts in late August in documenting the remaining concrete markers using survey-grade GPS. In spite of Maine law prohibiting the disturbance, removal or destruction of such markers[2], in mid-October demolition crews were given authorization by Maine DOT officials to remove the concrete markers and as of yet, there are no plans to replace the monuments which effect each abutter along the 85-mile long strip of land.

Clearly, there is a need to have new property markers installed marking the former railroad property and its abutters. Maine law[3] requires the reestablishment of these markers while any *Preservation Strategy* and basic principles of stewardship demands it. As Deputy Commissioner Van Note indicated in a September 4th *Ellsworth American* article[4], the salvage proceeds can pay for it, but a replacement plan needs to be established now, the replacement costs earmarked and monies set aside before the project is allowed to continue.

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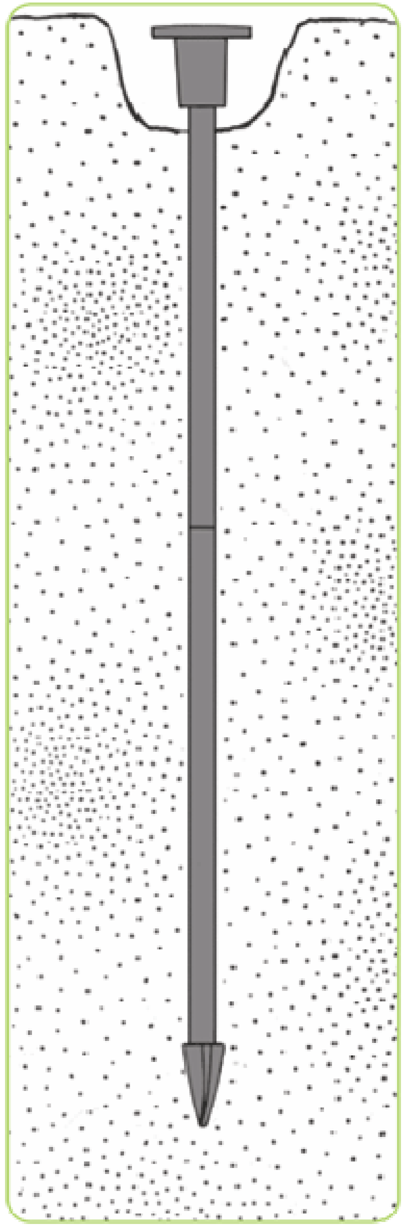
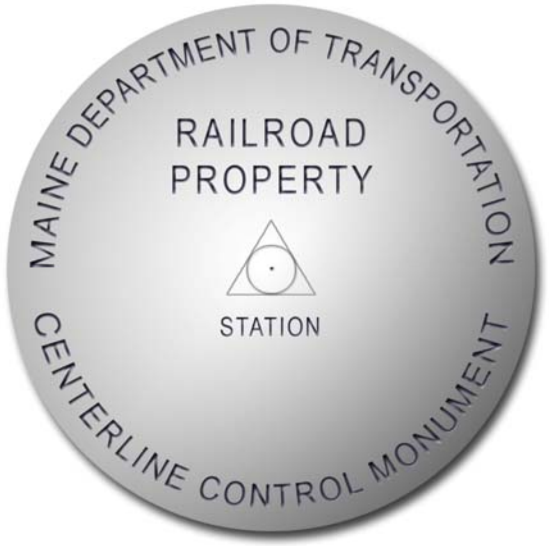
[1] http://www.hcpcme.org/transportation/sunrise/plans/DESTPlan022306.pdf
[2] See Appendix A
[3] See Appendix A
[4] Ellsworth American article: http://ellsworthmaine.com/site/index.php?option=com_content&task=view&id=16651&Itemid=31



Railroad Monument Particulars

It is recommended that the replacement monuments be Berntsen International's ¾" aluminum sectional rods[5] driven a minimum of 4' or to refusal with an embedded magnet beneath a 3.25" aluminum identification disk[6]. Each disk should have the stationing specific to its location stamped into it. The finished tops of the monuments should be buried no less than 0.3' below finished grade and placed at every PC, PCC and PT called for along the entire 85 miles as indicated on the Val sheets of 1916, and not just at only the locations of monuments recently recovered and documented. Dual-sided witness posts (e.g., Carsonite[7]) labeled with the corresponding stationing should be driven in the ground immediately opposite of each buried monument at a convenient distance yet never within any portion of the traveled way. Additional labeled witness posts should also be similarly set at 1-mile intervals to aid travelers and rescuers alike in identifying where they are along the corridor. Trail maps could also take advantage of posted mile markers for things like trail heads, camp sites and other features of interest.


MAINE DEPARTMENT OF TRANSPORTATION
RAILROAD PROPERTY
STATION
CENTERLINE CONTROL MONUMENT

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[5] http://www.berntsen.com/GoShopping/Surveying/Monuments/SectionalRodMonuments/34AluminumMonuments/tabid/1802/Default.aspx

[6] http://www.berntsen.com/34AluminumMonuments/tabid/1802/ctl/ViewProduct/mid/636/itemID/516/Default.aspx

[7] http://www.berntsen.com/GoShopping/Surveying/SignsWitnessPosts/tabid/1733/Default.aspx

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APPENDIX A – Maine Law

Title 14: COURT PROCEDURE -- CIVIL
Chapter 739: WASTE AND TRESPASS TO REAL ESTATE
Subchapter 2: TRESPASS

2. Prohibitions. Without permission of the owner a person may not:
C. Disturb, remove or destroy any lawfully established transit point, reference point, stake, plug, hub, guardstake, bench mark, pipe, iron, concrete post, stone post or other monument of any railroad, highway, public utility or other engineering location or survey or any such monument marking the bounds of public or private property[8].

3. Measure of damages. This subsection governs the measurement of damages resulting from a violation of subsection 2.
C. When a monument or marker has been disturbed, removed or destroyed as prohibited in subsection 2, paragraph C, the owner's damages may include the cost of engineering and surveyor services necessary to reestablish a monument or marker and its proper location[9].

4. Damages recoverable. Damages are recoverable as follows.
C. In addition to the damages recoverable under paragraphs A and B, a person who violates subsection 2 is also liable to the owner for the costs the owner may incur if the violation results in a violation of any federal, state or local law or ordinance and, as a result, the owner becomes the subject of an enforcement proceeding. These costs include attorney's fees, costs and the value of the owner's time spent on involvement in the enforcement proceeding[10].

Title 23: HIGHWAYS
Part 7: RAILROADS HEADING: PL 1987, C. 141, PT. A, §4 (NEW)
Chapter 615: STATE RAILROAD PRESERVATION ACT HEADING: PL 1989, C. 398, §7 (RPR)
Subchapter 1: RAILROAD PRESERVATION, ASSISTANCE AND ACQUISITION HEADING: PL 1989, C. 398, §7 (NEW)

§7108. Calais Branch rail corridor

1. Repaid funds to be used to preserve rail corridor. Notwithstanding any other provision of law, funds repaid to the Department of Transportation as a result of state investments or loans for the redevelopment of the Calais Branch rail corridor must be used by the department to preserve the rail corridor.
2. Reservation of right to use rail corridor for rail purposes. The Department of Transportation reserves the right to terminate at any time the use of the Calais Branch rail corridor for recreational purposes and to use the Calais Branch rail corridor for railroad purposes. [11]

Title 23: HIGHWAYS
Part 7: RAILROADS HEADING: PL 1987, C. 141, PT. A, §4 (NEW)
Chapter 615: STATE RAILROAD PRESERVATION ACT HEADING: PL 1989, C. 398, §7 (RPR)
Subchapter 1: RAILROAD PRESERVATION, ASSISTANCE AND ACQUISITION HEADING: PL 1989, C. 398, §7 (NEW)

§7107. Dismantling of state-owned track

Except as provided in this section, the Department of Transportation may not dismantle or contract with a state agency or private entity for the dismantling of state-owned track. When the department, in consultation with a regional economic planning entity and a regional transportation advisory committee established in accordance with rules adopted under section 73, subsection 4, determines that removal of a specific length of rail owned by the State will not have a negative impact on a region or on future economic opportunities for that region, the Commissioner of Transportation shall seek review by the joint standing committee of the Legislature having jurisdiction over transportation matters prior to removal. [12]

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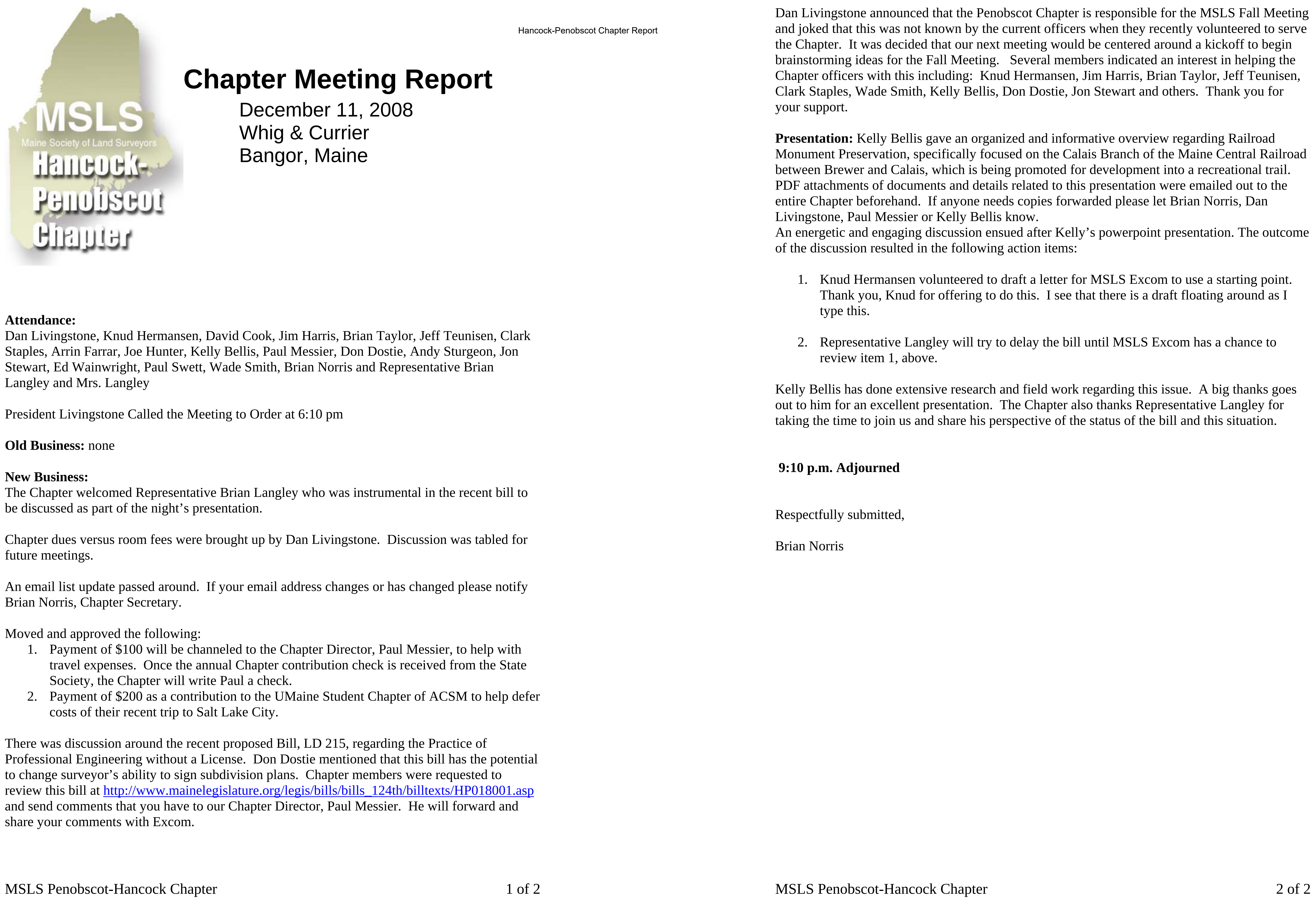
[8] http://www.mainelegislature.org/legis/Statutes/14/title14sec7552.html
[9] http://www.mainelegislature.org/legis/Statutes/14/title14sec7552.html
[10] http://www.mainelegislature.org/legis/Statutes/14/title14sec7552.html
[11] http://www.mainelegislature.org/legis/Statutes/23/title23sec7108.html
[12] http://www.mainelegislature.org/legis/Statutes/23/title23sec7107.html



Chapter Meeting Report

December 11, 2008
Whig & Currier
Bangor, Maine

Attendance:
Dan Livingstone, Knud Hermansen, David Cook, Jim Harris, Brian Taylor, Jeff Teunisen, Clark Staples, Arrin Farrar, Joe Hunter, Kelly Bellis, Paul Messier, Don Dostie, Andy Sturgeon, Jon Stewart, Ed Wainwright, Paul Swett, Wade Smith, Brian Norris and Representative Brian Langley and Mrs. Langley

President Livingstone Called the Meeting to Order at 6:10 pm

Old Business: none

New Business:
The Chapter welcomed Representative Brian Langley who was instrumental in the recent bill to be discussed as part of the night's presentation.

Chapter dues versus room fees were brought up by Dan Livingstone. Discussion was tabled for future meetings.

An email list update passed around. If your email address changes or has changed please notify Brian Norris, Chapter Secretary.

Moved and approved the following:

1. Payment of $100 will be channeled to the Chapter Director, Paul Messier, to help with travel expenses. Once the annual Chapter contribution check is received from the State Society, the Chapter will write Paul a check.
2. Payment of $200 as a contribution to the UMaine Student Chapter of ACSM to help defer costs of their recent trip to Salt Lake City.

There was discussion around the recent proposed Bill, LD 215, regarding the Practice of Professional Engineering without a License. Don Dostie mentioned that this bill has the potential to change surveyor's ability to sign subdivision plans. Chapter members were requested to review this bill at http://www.mainelegislature.org/legis/bills/bills_124th/billtexts/HP018001.asp and send comments that you have to our Chapter Director, Paul Messier. He will forward and share your comments with Excom.

Dan Livingstone announced that the Penobscot Chapter is responsible for the MSLS Fall Meeting and joked that this was not known by the current officers when they recently volunteered to serve the Chapter. It was decided that our next meeting would be centered around a kickoff to begin brainstorming ideas for the Fall Meeting. Several members indicated an interest in helping the Chapter officers with this including: Knud Hermansen, Jim Harris, Brian Taylor, Jeff Teunisen, Clark Staples, Wade Smith, Kelly Bellis, Don Dostie, Jon Stewart and others. Thank you for your support.

Presentation: Kelly Bellis gave an organized and informative overview regarding Railroad Monument Preservation, specifically focused on the Calais Branch of the Maine Central Railroad between Brewer and Calais, which is being promoted for development into a recreational trail. PDF attachments of documents and details related to this presentation were emailed out to the entire Chapter beforehand. If anyone needs copies forwarded please let Brian Norris, Dan Livingstone, Paul Messier or Kelly Bellis know.
An energetic and engaging discussion ensued after Kelly's powerpoint presentation. The outcome of the discussion resulted in the following action items:

1. Knud Hermansen volunteered to draft a letter for MSLS Excom to use a starting point. Thank you, Knud for offering to do this. I see that there is a draft floating around as I type this.

2. Representative Langley will try to delay the bill until MSLS Excom has a chance to review item 1, above.

Kelly Bellis has done extensive research and field work regarding this issue. A big thanks goes out to him for an excellent presentation. The Chapter also thanks Representative Langley for taking the time to join us and share his perspective of the status of the bill and this situation.

9:10 p.m. Adjourned

Respectfully submitted,

Brian Norris

Proposed DRAFT letter from MSLS to MDOT prepared by Knud Hermansen

Mr. Bruce Van Note, P.L.S., Esq.
Deputy Commissioner
Maine Department of Transportation
16 House Station
Augusta, ME 04333-0016

Re: Right of Way Monumentation

Bruce:

On behalf of the Maine Society of Land Surveyors, I have been asked to write to you and express our hopes that you will emphasize to your employees and contractors the importance of monument preservation along and within various road and railroad right of ways that fall under the jurisdiction or control of the State of Maine.

As you are aware, the protection of monuments and other survey control points is of such critical importance that the Maine legislature has passed laws protecting monuments, reference points, and other survey critical monumentation:

> 14 M.R.S. § 7552(2)(C) Without permission of the owner a person may not … Disturb, remove or destroy any lawfully established transit point, reference point, stake, plug, hub, guardstake, bench mark, pipe, iron, concrete post, stone post or other monument of any railroad, highway, public utility or other engineering location or survey or any such monument marking the bounds of public or private property.

The Maine legislature has also enacted penalties for disturbance, removal, or destruction of monuments, reference points, etc.

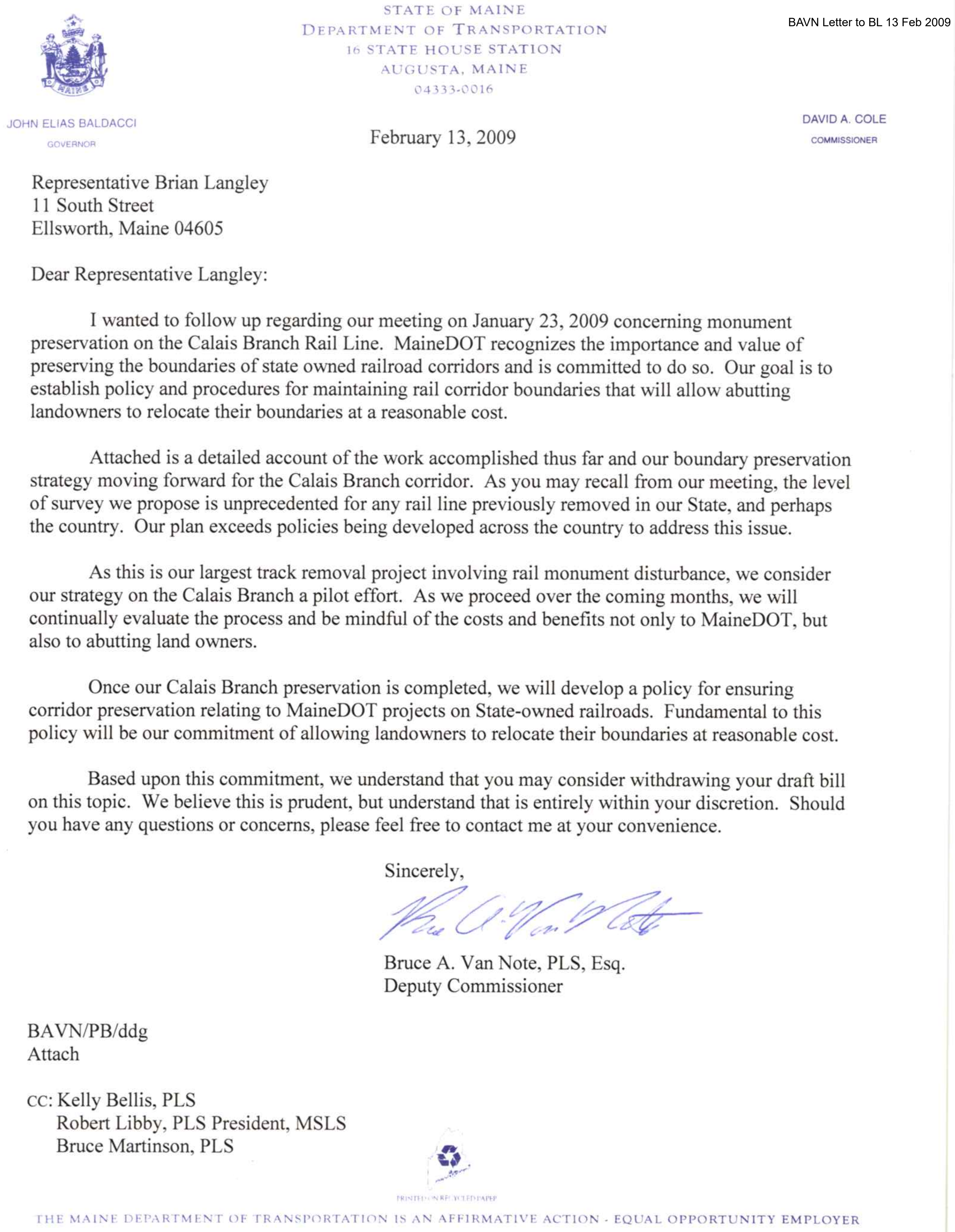
> 14 M.R.S. § 7552(2)(C) When a monument or marker has been disturbed, removed or destroyed as prohibited in subsection 2, paragraph C, the owner's damages may include the cost of engineering and surveyor services necessary to reestablish a monument or marker and its proper location.

We realize that abeyance to the law during most construction is a responsibility of the contractor regardless of their connection to the State and your agency. Most contracts between the contractor and the State of Maine require all contractors obey and adhere to state and local laws. Yet, most contractors may not be aware of this law or the importance of monument preservation. Accordingly, we would ask that you emphasize this particular law to contractors and employees and explain the importance for preserving monumentation and the replacement of monumentation that has been disturbed, removed, or destroyed.

Given your experience, background, and stature within our profession we need not belabor what we believe to be the great cost to the public and concern to our members when critical monuments or their former position are lost. Given your background and experience we hope we can count on your kindly attention and emphasis to this important matter.

Respectfully,
Maine Society of Land Surveyors

John Lloyd, P.L.S.
President



BAVN Letter to BL 13 Feb 2009

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0016

JOHN ELIAS BALDACCI
GOVERNOR

DAVID A. COLE
COMMISSIONER

February 13, 2009

Representative Brian Langley
11 South Street
Ellsworth, Maine 04605

Dear Representative Langley:

I wanted to follow up regarding our meeting on January 23, 2009 concerning monument preservation on the Calais Branch Rail Line. MaineDOT recognizes the importance and value of preserving the boundaries of state owned railroad corridors and is committed to do so. Our goal is to establish policy and procedures for maintaining rail corridor boundaries that will allow abutting landowners to relocate their boundaries at a reasonable cost.

Attached is a detailed account of the work accomplished thus far and our boundary preservation strategy moving forward for the Calais Branch corridor. As you may recall from our meeting, the level of survey we propose is unprecedented for any rail line previously removed in our State, and perhaps the country. Our plan exceeds policies being developed across the country to address this issue.

As this is our largest track removal project involving rail monument disturbance, we consider our strategy on the Calais Branch a pilot effort. As we proceed over the coming months, we will continually evaluate the process and be mindful of the costs and benefits not only to MaineDOT, but also to abutting land owners.

Once our Calais Branch preservation is completed, we will develop a policy for ensuring corridor preservation relating to MaineDOT projects on State-owned railroads. Fundamental to this policy will be our commitment of allowing landowners to relocate their boundaries at reasonable cost.

Based upon this commitment, we understand that you may consider withdrawing your draft bill on this topic. We believe this is prudent, but understand that is entirely within your discretion. Should you have any questions or concerns, please feel free to contact me at your convenience.

Sincerely,

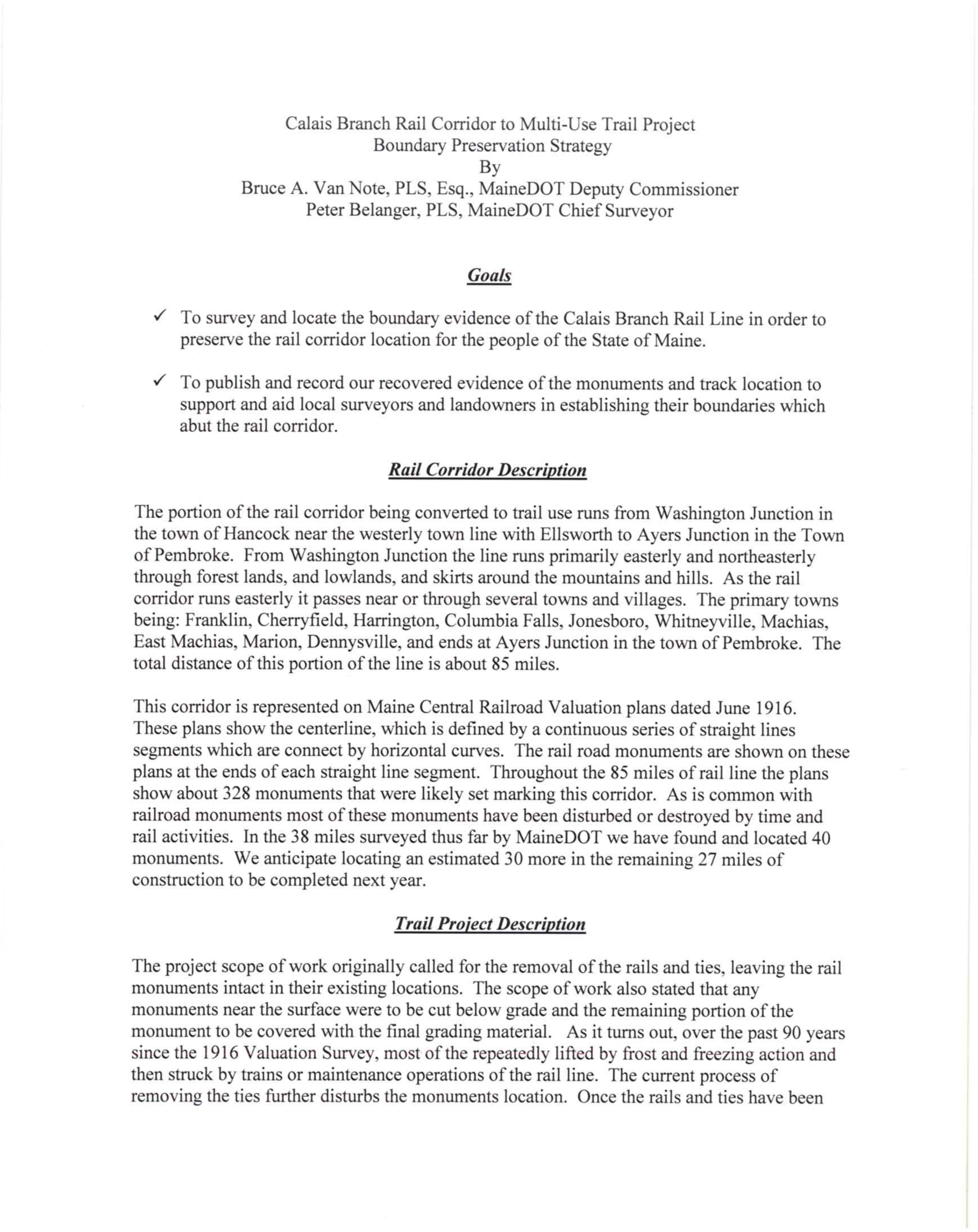
Bruce A. Van Note, PLS, Esq.
Deputy Commissioner

BAVN/PB/ddg
Attach

CC: Kelly Bellis, PLS
Robert Libby, PLS President, MSLS
Bruce Martinson, PLS

PRINTED ON RECYCLED PAPER

THE MAINE DEPARTMENT OF TRANSPORTATION IS AN AFFIRMATIVE ACTION - EQUAL OPPORTUNITY EMPLOYER



Calais Branch Rail Corridor to Multi-Use Trail Project
Boundary Preservation Strategy

By
Bruce A. Van Note, PLS, Esq., MaineDOT Deputy Commissioner
Peter Belanger, PLS, MaineDOT Chief Surveyor

Goals

- ✓ To survey and locate the boundary evidence of the Calais Branch Rail Line in order to preserve the rail corridor location for the people of the State of Maine.
- ✓ To publish and record our recovered evidence of the monuments and track location to support and aid local surveyors and landowners in establishing their boundaries which abut the rail corridor.

Rail Corridor Description

The portion of the rail corridor being converted to trail use runs from Washington Junction in the town of Hancock near the westerly town line with Ellsworth to Ayers Junction in the Town of Pembroke. From Washington Junction the line runs primarily easterly and northeasterly through forest lands, and lowlands, and skirts around the mountains and hills. As the rail corridor runs easterly it passes near or through several towns and villages. The primary towns being: Franklin, Cherryfield, Harrington, Columbia Falls, Jonesboro, Whitneyville, Machias, East Machias, Marion, Dennysville, and ends at Ayers Junction in the town of Pembroke. The total distance of this portion of the line is about 85 miles.

This corridor is represented on Maine Central Railroad Valuation plans dated June 1916. These plans show the centerline, which is defined by a continuous series of straight lines segments which are connect by horizontal curves. The rail road monuments are shown on these plans at the ends of each straight line segment. Throughout the 85 miles of rail line the plans show about 328 monuments that were likely set marking this corridor. As is common with railroad monuments most of these monuments have been disturbed or destroyed by time and rail activities. In the 38 miles surveyed thus far by MaineDOT we have found and located 40 monuments. We anticipate locating an estimated 30 more in the remaining 27 miles of construction to be completed next year.

Trail Project Description

The project scope of work originally called for the removal of the rails and ties, leaving the rail monuments intact in their existing locations. The scope of work also stated that any monuments near the surface were to be cut below grade and the remaining portion of the monument to be covered with the final grading material. As it turns out, over the past 90 years since the 1916 Valuation Survey, most of the repeatedly lifted by frost and freezing action and then struck by trains or maintenance operations of the rail line. The current process of removing the ties further disturbs the monuments location. Once the rails and ties have been removed the remaining portion of the monument is often 6 to 8 inches above the surrounding ground. The monuments are generally shorter than their original lengths and often leaning and crumbling. In order to cut off the tops of the monument it would be necessary to hand excavate around the monument. The generally poor condition of the concrete and rebar monuments rendered this option nearly impossible without compromising the current monument locations. For a period during the construction, in an effort to preserve the monuments, the crew removing track ties left the ties on each side of found monuments in place. This resulted in a dangerous obstruction in an otherwise unobstructed trail. With safety in mind the decision was made to remove the monuments which were above grade at the time of the rail and tie removing operations.

Construction and Survey

Construction on this project began in the Town of Whitneyville at the rail crossing with Route 1A. The rails and ties were removed for about 20 miles heading easterly through Machias, East Machias and through a portion of Marion prior to our learning that the monuments were also being destroyed by this activity. With the help of Kelly Bellis, once MaineDOT learned about the destruction of the monuments we immediately began capturing accurate GPS positions on all the remaining monuments, that could be located along with the center of the tracks, where no monuments were found; all the while staying ahead of the construction activities. This work was first completed from Marion to Ayers Junction – the eastern end of the project.

With this section completed we returned to Whitneyville and collected the same monument and track location data heading westerly to the Town of Cherryfield; a few miles westerly of the stopping point of the construction crews for the winter months.

The remaining portion of the rail line is to undergo construction beginning in the spring of 2009 (Cherryfield to Washington Junction). MaineDOT will restart the ground survey prior to any spring construction activities. We plan to compile this survey data by collecting additional field observations to record and document remaining monument locations, and locate the centerline of the tracks where there are no monuments. We also plan to combine our data with the monument coordinates already collected by Kelly Bellis if he is willing to share his data with MaineDOT.

Surveys, Plans, Documentation and Monumentation

The compiled survey data points for the found monuments and the track locations will be made available in both graphic form and in digital format through a variety of sources.

1) A geographic (GIS) map will be made available through the MaineDOT website depicting the locations of the found monuments, with links to the data.

2) A listing of the monuments linked with the appropriate sheet number and stationing from the Railroad Valuation Survey plans of 1916, and state plane coordinates will be recorded in both the Hancock and Washington County Registries of Deeds.

3) Notifications of the availability of this information will be posted in the appropriate town offices and reported to the Maine Society of Land Surveyors for distribution to its membership.

4) Inter visible pairs of survey control points will be placed at intervals along the rail line to enable local surveyors to tie into the state plane coordinate system. These control points will be more densely placed in more urbanized settings (1-2 miles), with greater spacing in more remote locations (4-5 miles).

5) The twenty mile portion with minimal monumentation captured prior to construction will require a greater level of effort to retrace the side boundaries of the rail line. The field reconnaissance and boundary research has begun on this stretch.

Abandoned Railroad Monumentation Standards

Nationally, monumenting or marking the location of abandoned Railroad Right-of-Ways is an issue being addressed by some states and by the American Congress on Surveying and Mapping (ACSM), the national association for surveying professionals. The ACSM is proposing that Railroads be required to survey the rails using GPS and preserve those coordinate locations. Our proposal goes a step further by setting control points along the rail line so that a surveyor would not be required to own, or rent, survey grade GPS in order to reestablish the railroad Right-of-Way. (See Appendix "A" for a copy of a recent article from a national surveying publication concerning this proposed legislation.)

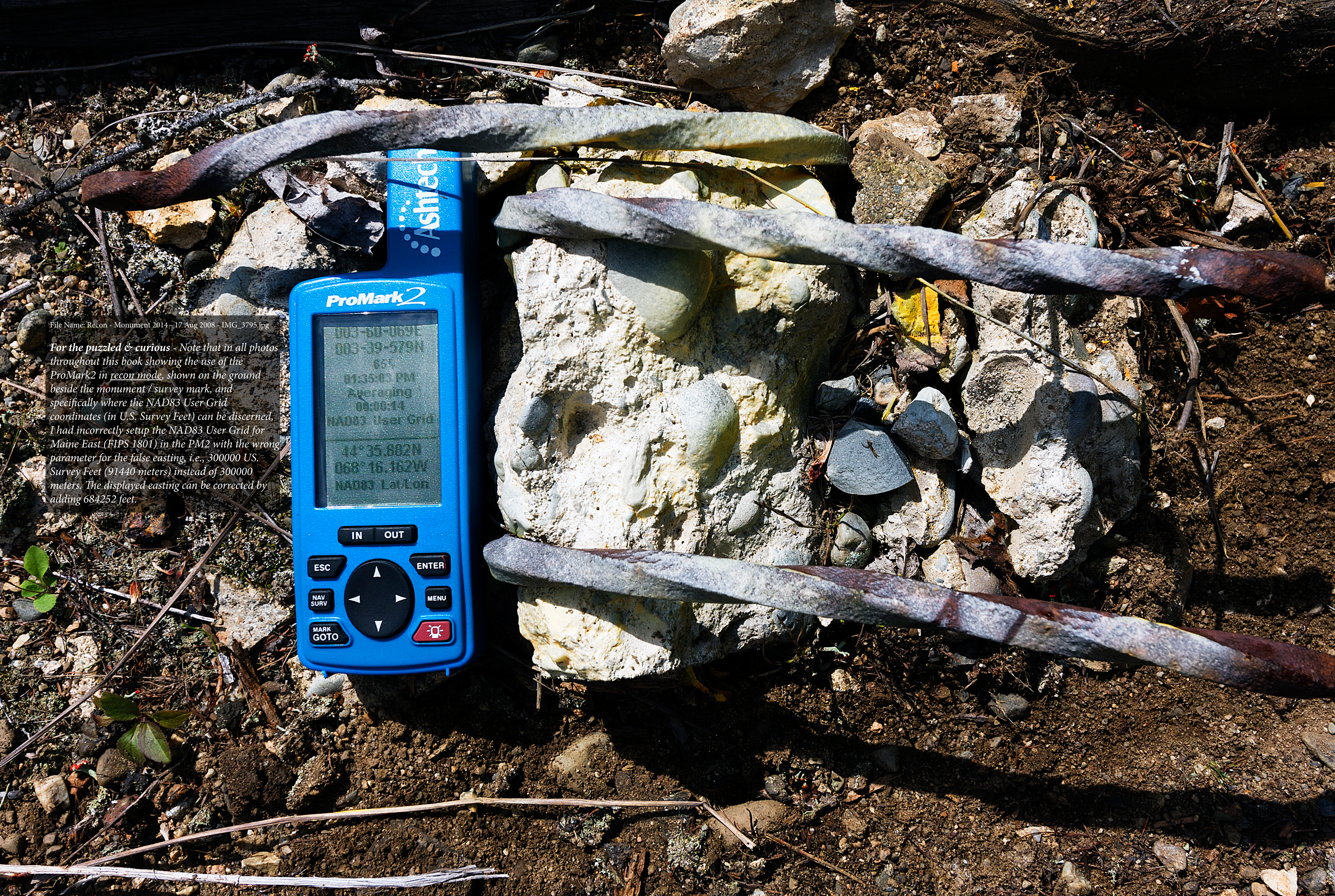
Time and Costs

The estimated cost to complete the ground survey of existing monuments and track, the retracement survey from Whitneyville to Marion, and to install the control points is estimated to be $50,000 to $60,000 dollars.

It is estimated that to complete the survey and set the monuments outlined in the proposal promulgated by Mr. Kelly Bellis would cost 2 to 3 times this estimate.
The rail and tie removal operation will be restarted in the spring and the trail should be completed during the summer of 2009. MaineDOT will complete the survey and documentation of that survey within 1 year from the completion of the trail project.

Conclusions

MaineDOT believes our proposal will allow the abutting landowners to relocate their boundaries at a reasonable cost and the State to maintain the rail corridor boundaries for current and future uses.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For the puzzled & curious *- Note that in all photos throughout this book showing the use of the ProMark2 in recon mode, shown on the ground beside the monument / survey mark, and specifically where the NAD83 User Grid coordinates (in U.S. Survey Feet) can be discerned, I had incorrectly setup the NAD83 User Grid for Maine East (FIPS 1801) in the PM2 with the wrong parameter for the false easting, i.e., 300000 US. Survey Feet (91440 meters) instead of 300000 meters. The displayed easting can be corrected by adding 684252 feet.*